

**FHML/Maastricht UMC<sup>+</sup> format Curriculum Vitae**

**Curriculum Vitae**

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**Name: Jaap Jansen**

**date: 17/6/19**

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**1. Personal details:**

Full Name: Jacobus FA Jansen, PhD

Living address (including tel.): Keunestraat 9, 6267CP, Cadier en Keer, 06-42414398

Date and place of birth: July 4<sup>th</sup>, 1979. Oirschot, The Netherlands

Nationality: Dutch

Gender: M

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**2. Professional address:**

Name university / institute: Maastricht University Medical Center / School for Mental Health and Neuroscience

Department: Radiology

Post address: PO Box 5800, 6202 AZ Maastricht

Tel.: 043 387 4908

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Website: [www.jansenjfa.com](http://www.jansenjfa.com)

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**3. Training / Education (including graduation, PhD and teaching qualification)**

**PhD Training**

2002 – 2007 Ph.D. in Biomedical Engineering  
Defense: June 7th 2007  
“Quantitative Magnetic Resonance Techniques in Epilepsy”  
Biomedical NMR, Department of Biomedical Engineering, Eindhoven University of Technology, The Netherlands.  
Ph.D. advisor: Prof. Dr. Klaas Nicolay

### Teaching qualifications

- 2015 Nov University Teaching Qualification (BKO), Maastricht University.  
Assessors: Prof R de Bie and Dr W de Grave
- 2019 Jan Introduction in PBL and Tutor Training, Maastricht University.  
Trainer: E. Miteniece
- 2003 Nov Tutor Training, Dept of Biomedical Engineering, Eindhoven University of  
Technology  
Trainer: Ir. A.H. Kamp

### Postdoctoral training

- 2009 Dec Responsible Conduct of Research Course, Memorial Sloan Kettering Cancer  
Center, NY, USA.  
Course Director: Debra Schaller-Demers, MSOM, RCR
- 2010 Nov Good Clinical Practice, MUMC+.
- 2011 Nov Level 3, Radiation Protection and Dosimetry, SBD, SMPE/e, Eindhoven  
University of Technology.  
Course Directors: Prof.dr.ir EJE Cotteraar, Dr M.C. Kunze-Busch
- 2014 Mar Re-registration Good Clinical Practice (BROK), MUMC+.
- 2018 Sep Re-registration Good Clinical Practice (BROK), MUMC+.

### Bachelor's and Master's degrees

- 1997 – 2002 B.Sc and M.Sc. in Chemistry  
Radboud University Nijmegen, The Netherlands  
B.Sc Graduation: 09/1998 (Dutch equivalent "Propedeuse")  
M.Sc Graduation: 06/2002
- 2000-2001 Internship High Resolution NMR, Department of Biophysical Chemistry, Radboud  
University, Nijmegen, The Netherlands.  
Research project: "Studying the PAH domain using high resolution NMR"  
Dr. G.W. Vuister and Professor C.W. Hilbers
- 2001 Internship at the Department of Radiology, Radboud University Nijmegen Medical  
Center, The Netherlands  
Research project: "Quantification with jMRUI of 31P spectra of murine skeletal  
muscle recorded during ischemia"  
Professor A. Heerschap
- 2001-2002 Internship at the Department of Radiology, School of Medicine, Johns Hopkins  
University, Baltimore, USA.  
Research project: "NMR Studies of stem cells"  
Dr J.M. Hakumäki, Dr J.W.M. Bulte and Professor P.C.M. van Zijl

### Pre-university education

- 1991-1997 Secondary School: Jacob Roelands Lyceum, Boxtel, The Netherlands  
Subjects: English, Dutch, Latin, History, Mathematics B,  
Chemistry, Physics, Biology
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#### 4. Professional appointments

##### Current situation

- 0.3 fte Senior Research Faculty, Department of Radiology, Maastricht University Medical Centre
- 0.2 fte Associate Professor (Researcher 2) (Research), School for Mental Health and Neuroscience, Maastricht
- 0.2 fte Associate Professor (Researcher 2) (Teaching), Maastricht University
- 0.1 fte Senior Scientific Advisor, Scannexus, Maastricht
- 0.2 fte Distinguished Research Associate, dept. of Electrical Engineering, Eindhoven University of Technology

##### Employment history

- 2018-current Distinguished Research Associate, Department of Electrical Engineering, Eindhoven University of Technology
- 2018-current Associate Professor (Researcher 2), School for Mental Health and Neuroscience, Maastricht University
- 2017-current Senior Scientific Advisor, Scannexus, Maastricht
- 2013-current Assistant Professor, School for Mental Health and Neuroscience, Maastricht University
- 2010-current Senior Research Faculty, Department of Radiology, Maastricht University Medical Centre
- 2008-2010 Research Scholar, Department of Medical Physics, Memorial Sloan-Kettering Cancer Center, NY, USA
- 2007-2008 Postdoctoral Researcher, Epilepsy Centre Kempenhaeghe, Heeze

##### Licenses and certifications

Level 3, Radiation Protection and Dosimetry (2011 Nov)

##### Man-years of research

Since obtaining my doctorate in June 2007, I have performed 12 years of research.

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#### 5. Clinical experience and main clinical interest

Not applicable

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## 6. Teaching experience

### *Qualification*

2015-11 Basic Teaching Qualification (BKO), Maastricht University

### **A roles (tutor / lectures / student supervision)**

#### *Supervision*

##### **Maastricht University**

- Supervision Internship, Friso den Heijer (473472, BMS2002), MA Biomedical Sciences, BMW, Maastricht University, 2014
- Supervision Bachelor thesis, Anja Muurmans (6061596, BMW3030), BSc Biomedical Sciences – track Molecular Life Sciences, Faculty of Health, Medicine and Life sciences, 2015
- Supervision Internship, Seth Siahajja, BMW Master (6077082, BMS1004), Junior Practical Training – Internship, 2017
- 2<sup>nd</sup> evaluator, Max Vogel (BMS Master, 575860), Maastricht University, 2013
- 2<sup>nd</sup> evaluator, Dennis Huiberts, Bachelor Thesis, (6043489, BMW3030), Maastricht University, 2017
- local UM supervisor, Bárbara Schmitz Abecassis, external internship in Japan, (I6069086, BMS2001), Maastricht University, 2018-2019

##### **Eindhoven University of Technology**

- Supervision Master thesis, Maarten van Rossum, Electrical Engineering, Eindhoven University of Technology, 2015
- Supervision Master thesis, Gerald Drenthen, Electrical Engineering, Eindhoven University of Technology, 2015
- Co-supervision Master thesis, Joost Loring, Biomedical Engineering, Eindhoven University of Technology, 2016
- Supervision Master thesis, Floor Fasen, Electrical Engineering, Eindhoven University of Technology, 2019
- Supervision Master thesis, Paulien Voorter, Biomedical Engineering, Eindhoven University of Technology, 2019-2020

#### *Lectures*

##### **Maastricht University**

- 2011 Lecture “An Introduction to MRI Physics”, Research Master Neurological Neuroscience, Maastricht University, PSY 4320.
- 2011-2013 Lecture “Neuroimaging: New (f)MRI Techniques”, Brain, Movement and Behavior (Brein, Bewegen & Gedrag), A-KO (Physician-Clinical Researcher) Master, Maastricht University, BBG-1.
- 2012-2015 Lecture “Neuroimaging in Alzheimer’s Disease”, Research Master Neurodegeneration, Maastricht University, PSY 4314.
- 2019-present Lecture “Principles of MRI” and “Neuroimaging: new (f)MRI techniques”, “Non-invasive Techniques in Biomedical Research”, Bachelor Biomedical Sciences, Maastricht University, BBS2003.

##### **Eindhoven University of Technology**

- 2008 Lecture “fMRI: basic methodology”, clinical MRI course for M.Sc. students, Department of Biomedical Engineering, the Eindhoven University of Technology.
- 2011 Lecture “In Vivo Magnetic Resonance Spectroscopy”, Lecture Series on Neuroimaging, Master Medical Engineering, Eindhoven University of Technology, NeuroMRI, 8F010.

- 2017 Lecture "Magnetic Resonance Spectroscopy", 5LSI0: Brain MRI, Master Students, Electrical Engineering, Eindhoven University of Technology.
- 2018-present Lecture "Basics of MRI" (8FM00), Medical Engineering Master Students, Eindhoven University of Technology.
- 2019-present Lecture "neuroMRI, the basics", 5XSH0: cognitive neuroscience, Master Students, Electrical Engineering, Eindhoven University of Technology.

#### **Radiological Society of the Netherlands**

- 2011- present Lecture "Physics of MRI", Advanced Course, National Education on Clinical Imaging Modalities for Radiology Residents, Region South, Eindhoven, BVT2.

#### *Tutorships*

#### **Maastricht University**

- 2019-present Tutor, "Non-invasive Techniques in Biomedical Research", Bachelor Biomedical Sciences, Maastricht University, BBS2003.

#### **Eindhoven University of Technology**

- 2011 Tutor, "Imaging Techniques", Bachelor Medical Engineering, Eindhoven University of Technology, BVT-1 8A820.
- 2003-2006 Various workgroup tutorships at the Eindhoven University of Technology.

#### **B roles (Planning/Coordination)**

#### **Maastricht University**

- 2018-2021 Member Course Planning Group, "Non-invasive Techniques in Biomedical Research", Bachelor Biomedical Sciences, Maastricht University, BBS2003.  
*I contribute to course planning, realization, implementation, assessment and evaluation under the supervision of the coordinator (Prof van Zandvoort) and I am responsible for the radiology/MRI content of the course (lectures & practicals) I participate in scheduled meetings with the Coordinator Planning Group.*

#### **Eindhoven University of Technology**

- 2011- present Coordinator / Contact Person Biomedical Engineering Maastricht, Department of Radiology, MUMC+.
- 2011- present Coordination Practical Assignment "MRI of the Brain" (8FM00), Medical Engineering Master Students, Eindhoven University of Technology.  
*ME MSc students from the TU/e follow a clinical module in Maastricht. I am responsible for the Practical Assignment "MRI of the Brain". I plan the scans, design and optimize the assignment, I grade the assignments and evaluate them with the students and the coordinator (Prof van de Vosse TU/e&UM). Approximately 20 students participate per year.*
- 2014- present Coordination and supervision "Duo-Stage" (duo internship) Radiology (8FM00), Medical Engineering Master Students, Eindhoven University of Technology.  
*ME MSc students from the TU/e follow a clinical module in Maastricht. I am responsible for the 'duo' small internships these students have to do (3 ECTS). I recruit supervisors (mostly PhD students from my department), and also supervise 1 duo myself. Currently, the duo-stage occurs twice a year, with on average 10 students per occasion. I grade the theses and evaluate the assignments with the students and the coordinator (Prof van de Vosse TU/e&UM). In Q1 of 2018, Prof M. Oude Egbrink confirmed the B-role status of this function.*

**Radiological Society of the Netherlands**

2011- present Member MRI workgroup, National Education on Clinical Imaging Modalities for Radiology Residents.

*2<sup>nd</sup> and 3<sup>rd</sup> year radiology residents are obliged to follow education on physical principles of imaging modalities. As a member of the MRI workgroup I develop the curriculum material, I develop new teaching material, and continuously improve this over the years. I teach the students and define new exam questions. I evaluate the courses and the exams with the residents and the overall coordinator (Prof van Schaik, UMC Utrecht). Every year, approximately 20 students attend my lectures. In Q4 of 2018, Prof M. Oude Egbrink confirmed the B-role status of this function.*

**C roles (Chairing)**

**Radiological Society of the Netherlands**

2017- present Chair MRI workgroup, National Education on Clinical Imaging Modalities for Radiology Residents.

*2<sup>nd</sup> and 3<sup>rd</sup> year radiology residents are obliged to follow education on physical principles of imaging modalities. As the chairman of the MRI workgroup I organize and coordinate the workgroup meetings. I coordinate the clinical cases, the exam questions, and the curriculum material. Furthermore, I am the contact person for feedback with the educational institute of the UMC Utrecht and the Radiological Society of the Netherlands (Prof van Schaik, UMC Utrecht). In Q4 of 2018, Prof M. Oude Egbrink confirmed the C-role status of this function.*

## **7. Management positions**

### **Radiology**

I co-lead the neuroimaging research line of the department of Radiology/MHeNS Division 1 together with professor Walter Backes.

Currently I am the (co)-supervisor of 8 (5 internal, 3 external) PhD students, 1 postdoc, and 1 IT support. The number of annual performance and career interviews I conduct is 7. I represent my physics and research staff colleagues at the weekly radiology and nuclear medicine staff meetings.

As of 2010, I organize the bi-monthly researchers meeting for Radiology-Nuclear Medicine, MUMC+.

I am responsible for the Maastricht Study NeuroMRI analysis project, budget: €504.600, duration: 2016-2018. (1 fte PhD student, 0.5 fte postdoc, 0.1 fte neuroradiology, 0.1 fte IT support)

For the clinic, I assist our neuroradiologists with MRI sequence optimization and my expertise in neuroimaging and MR spectroscopy (e.g. for pediatric metabolic disorders).

### **Scannexus**

I am the coordinator of FHML research imaging (3T, 7T and 9.4T) projects at Scannexus. I receive all applications for FHML scan time and provide feedback and advise with regards to planning, acquisition, analysis and research hypotheses for these projects. Furthermore, I advise clinicians with their prospective neuroimaging projects at Scannexus.

### **MHeNS**

I represented the department of Radiology in the Contextual Neuroscience MHeNS think-tank in 2013-2014. This think-tank was commissioned by the leadership of MHeNS to map out the future of neuroscience research in the MUMC+.

## 8. Main research themes

Short description of research line (max 200 words)

My research is focused at the application of advanced magnetic resonance imaging (MRI) techniques and innovative data analysis methods in clinical neuro-radiological settings. I aim to answer fundamental and clinically relevant neurological and neurobehavioral questions using these MRI acquisition and analysis techniques, in order to obtain a better understanding of the underlying mechanisms and to improve treatment and care for people with cognitive disorders and other neurological disorders. This approach has been proven very successful for diseases including epilepsy, Alzheimer's disease, cerebral small vessel disease, and diabetes mellitus type II (T2DM).

In 2010, I initiated in Maastricht the neuroimaging research lines of diabetes mellitus type II and psychogenic non-epileptic seizures. I develop acquisition and advanced analysis methods for simultaneous assessment of microvasculature and microstructural integrity (intravoxel incoherent motion imaging) and myelin (multi echo sequences). I am also involved in research focused on the development and application of MRI techniques to study blood brain barrier dysfunction in Alzheimer's Disease and cerebral small vessel disease. Moreover, I am specialized in neurotransmitter spectroscopy in epilepsy, diabetes, and autism. My research line has recently been extended to ultra-high field.

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## 9. Thesis promotorship and supervision

### Completed (n=11)

Rene Besseling

Brain wiring and neuronal dynamics: advances in MR imaging of focal epilepsy

Promotores: Prof Dr AP Aldenkamp, Prof Dr WH Backes, copromotor: Dr JFA Jansen

2010-2014

Thesis defense: April 4<sup>th</sup> 2014

Sylvie Kolfshoten- van der Kruijs

Psychogenic non-epileptic seizures, the identification of neurophysiological correlates

Promotores: Prof Dr AP Aldenkamp, Prof Dr KEJ Vonck, copromotores: Dr JFA Jansen, Dr RHC

Lazeron

2010-2014

Thesis defense: June 24<sup>th</sup> 2014

Frank van Bussel

Advanced MRI in diabetes, cerebral biomarkers of cognitive decrements

Promotores: Prof Dr WH Backes, Prof Dr PAM Hofman, copromotor: Dr JFA Jansen

2011-2016

Thesis defense: June 9<sup>th</sup> 2016

Harm van de Haar

Microvascular blood-brain barrier dysfunction in Alzheimer's disease, new insights from quantitative magnetic resonance imaging

Promotores: Prof Dr WH Backes, Prof Dr FRJ Verhey, copromotores: Dr JFA Jansen, Dr MJP

van Osch

2012-2016

Thesis defense: November 10<sup>th</sup>, 2016



Dominique Ijff

Trick or Treat? Cognitive side-effects of antiepileptic treatment

Promotores: Prof Dr AP Aldenkamp, Prof Dr HJM Majoie, copromotores: Dr JFA Jansen, Dr RHC Lazeron

2013-2016

Thesis defense: December 9th 2016

Tamar van Veenendaal

Neurotransmitters & Networks. An MR view on epilepsy and antiepileptic drugs

Promotores: Prof Dr AP Aldenkamp, Prof Dr WH Backes, copromotor: Dr JFA Jansen

2013-2017

Thesis defense: July 13<sup>th</sup>, 2017

Evelien Barendse

Autism Spectrum Disorders in high functioning adolescents; diagnostic considerations

Promotores: Prof Dr AP Aldenkamp, Prof Dr RPC Kessels, copromotores: Dr MPH Hendriks, Dr JFA Jansen

2009-2017

Thesis defense: September 7<sup>th</sup>, 2017

May Wong

Advances in Microvascular MRI Techniques: Breaking the Pathophysiological Barriers in Cerebral Small Vessel Disease

Promotores: Prof Dr WH Backes, Prof Dr R van Oostenbrugge, copromotor: Dr JFA Jansen

2013-2017

Thesis defense: January 30<sup>th</sup> 2018

Ganne Chaitanya

Epilepsy: A network disorder

Promotores: Prof Dr AP Aldenkamp, Prof Dr Parthasarthy Satishchandra, copromotores: Dr JFA Jansen, Dr S Zinger

2015-2017

Thesis defense: February 6<sup>th</sup> 2018

Lalit Gupta

Inhomogeneities in spontaneous brain fluctuations

Promotores: Prof Dr WH Backes, Prof Dr PAM Hofman, copromotor: Dr JFA Jansen

2012-2017

Thesis defense: March 8<sup>th</sup> 2018

Roy Haast

QUANTITATIVE BRAIN MRI AT 7T in Healthy subjects and in metabolic diseases

Promotor: Prof Dr E Formisano, copromotores: Dr K Uludag, Dr JFA Jansen

2014-2018

Thesis defense: June 27<sup>th</sup> 2018

### **Ongoing (n=6)**

Gerald Drenthen

Methodological advances in epilepsy imaging: applications for absence epilepsy

Promotores: Prof Dr AP Aldenkamp, Prof Dr WH Backes, copromotor: Dr JFA Jansen

2015-2019

Laura Vergoossen

Advanced MRI in diabetes, cerebral biomarkers of lifestyle

Promotor: Prof Dr WH Backes, copromotores: Dr JFA Jansen, Dr MT Schram

2016-2020

Lisanne Canjels

Ultrahigh field imaging in post-stroke epilepsy

Promotor: Prof Dr AP Aldenkamp, copromotores: Dr JFA Jansen, Dr R Rouhl, Dr A de Louw  
2017-2021

Marieke van den Kerkhof

Ultrahigh field imaging in cerebral small vessel disease

Promotores: Prof Dr WH Backes, Prof Dr R van Oostenbrugge, copromotor: Dr JFA Jansen  
2017-2021

Jennifer Monereo Sánchez

Population imaging, brain volumetric analysis

Promotor: Prof Dr DEJ Linden, copromotores: Dr JFA Jansen, Dr MT Schram  
2019-2023

Merel van der Thiel

Glymphatic dysfunction and cognitive impairment: a memory clinic study

Promotor: Prof Dr WH Backes, copromotores: Dr JFA Jansen, Dr I Ramakers  
2019-2023

**Member of supervisory team, not as co-promotor (n=10)**

Marielle Vlooswijk, Medicine, 2005 - 2011

Functional networks and cognition in chronic epilepsy

Maarten Vaessen, Knowledge Engineering, 2008 - 2012

Brain connectivity in epilepsy

Hilde Braakman, Medicine, 2008 –2013

Cognitive impairment in frontal lobe epilepsy

Geke Overvliet, Medicine, 2009 - 2012

Language problems in Rolandic epilepsy

Eleana Zhang, Medicine, 2013 – 2018

Blood-brain barrier permeability in cerebral small vessel disease: a clinical perspective

Whitney Freeze, Neuroscience & Cognition, 2014 – 2018

BBB dysfunction in dementia

Erik Fonseca, Medicine, 2015 – 2018

Pediatric Frontal Lobe Epilepsy– a clinical perspective

Inge Verheggen, Neuropsychology, 2015-2019

BBB dysfunction and aging

Antoine Bernas (TU/e), Engineering, 2017-2021

fMRI and Neurodynamics

Stephan Heunis (TU/e), Engineering, 2017-2021

fMRI and Neurofeedback

Jesper Pilmeyer (TU/e), Engineering, 2019-2023

Novel MRI biomarkers for depression

## 10. Scientific quality

### 10.1. List of publications

Subdivided into the following categories and in chronological order (In press include DOI):

Wi-1: Scientific publication in international journal mentioned in the Social Science Citation Index, Science Citation Index or Arts & Humanities Citation Index with Impact Factor.

2000

- 1 Spronk CA, Tessari M, Kaan AM, **Jansen JF**, Vermeulen M, Stunnenberg HG, Vuister GW. The Mad1-Sin3B interaction involves a novel helical fold. *Nat Struct Biol* 2000; **7**(12): 1100-1104

2001

- 2 Spronk CA, **Jansen JF**, Tessari M, Kaan AM, Aelen J, Lasonder E, Stunnenberg HG, Vuister GW. Sequence-specific assignment of the PAH2 domain of Sin3B free and bound to Mad1. *J Biomol NMR* 2001; **19**(4): 377-378

2004

- 3 van Ingen H, Lasonder E, **Jansen JF**, Kaan AM, Spronk CA, Stunnenberg HG, Vuister GW. Extension of the binding motif of the Sin3 interacting domain of the Mad family proteins. *Biochemistry* 2004; **43**(1): 46-54

2006

- 4 **Jansen JF**, Aldenkamp AP, Marian Majoie HJ, Reijs RP, de Krom MC, Hofman PA, Eline Kooi M, Nicolay K, Backes WH. Functional MRI reveals declined prefrontal cortex activation in patients with epilepsy on topiramate therapy. *Epilepsy Behav* 2006; **9**(1): 181-185
- 5 **Jansen JF**, Backes WH, Nicolay K, Kooi ME. 1H MR spectroscopy of the brain: absolute quantification of metabolites. *Radiology* 2006; **240**(2): 318-332
- 6 **Jansen JF**, Shablott MJ, van Zijl PC, Lehtimaki KK, Bulte JW, Gearhart JD, Hakumaki JM. Stem cell profiling by nuclear magnetic resonance spectroscopy. *Magn Reson Med* 2006; **56**(3): 666-670

2007

- 7 **Jansen JF**, Kooi ME, Kessels AG, Nicolay K, Backes WH. Reproducibility of quantitative cerebral T2 relaxometry, diffusion tensor imaging, and 1H magnetic resonance spectroscopy at 3.0 Tesla. *Invest Radiol* 2007; **42**(6): 327-337
- 8 Langers DR, **Jansen JF**, Backes WH. Enhanced signal detection in neuroimaging by means of regional control of the global false discovery rate. *Neuroimage* 2007; **38**(1): 43-56

2008

- 9 **Jansen JF**, Gearhart JD, Bulte JW. Comment on "Magnetic resonance spectroscopy identifies neural progenitor cells in the live human brain". *Science* 2008; **321**(5889): 640
- 10 **Jansen JF**, Lemmens EM, Strijkers GJ, Prompers JJ, Schijns OE, Kooi ME, Beuls EA, Nicolay K, Backes WH, Hoogland G. Short- and long-term limbic abnormalities after experimental febrile seizures. *Neurobiol Dis* 2008; **32**(2): 293-301
- 11 **Jansen JF**, Vlooswijk MC, de Baets MH, de Krom MC, Rieckmann P, Backes WH, Aldenkamp AP, Group SS. Cognitive fMRI and soluble telencephalin assessment in patients with localization-related epilepsy. *Acta Neurol Scand* 2008; **118**(4): 232-239
- 12 **Jansen JF**, Vlooswijk MC, Majoie HM, de Krom MC, Aldenkamp AP, Hofman PA, Backes WH. White matter lesions in patients with localization-related epilepsy. *Invest Radiol* 2008; **43**(8): 552-558

- 13 Vlooswijk MC, **Jansen JF**, Reijs RP, de Krom MC, Kooi ME, Majoie HJ, Hofman PA, Backes WH, Aldenkamp AP. Cognitive fMRI and neuropsychological assessment in patients with secondarily generalized seizures. *Clin Neurol Neurosurg* 2008; **110**(5): 441-450
- 2009
- 14 Jeukens CR, Vlooswijk MC, Majoie HJ, de Krom MC, Aldenkamp AP, Hofman PA, **Jansen JF**, Backes WH. Hippocampal MRI volumetry at 3 Tesla: reliability and practical guidance. *Invest Radiol* 2009; **44**(9): 509-517
- 15 Tijssen RH, **Jansen JF**, Backes WH. Assessing and minimizing the effects of noise and motion in clinical DTI at 3 T. *Hum Brain Mapp* 2009; **30**(8): 2641-2655
- 2010
- 16 Colon AJ, Hofman P, Ossenblok PP, **Jansen JF**, Ter Beek LC, Berting R, Stam CJ, Boon P. MRS-lateralisation index in patients with epilepsy and focal cortical dysplasia or a MEG-focus using bilateral single voxels. *Epilepsy Res* 2010; **89**(1): 148-153
- 17 **Jansen JF**, Koutcher JA, Shukla-Dave A. Non-invasive imaging of angiogenesis in head and neck squamous cell carcinoma. *Angiogenesis* 2010; **13**(2): 149-160
- 18 **Jansen JF**, Schoder H, Lee NY, Wang Y, Pfister DG, Fury MG, Stambuk HE, Humm JL, Koutcher JA, Shukla-Dave A. Noninvasive assessment of tumor microenvironment using dynamic contrast-enhanced magnetic resonance imaging and 18F-fluoromisonidazole positron emission tomography imaging in neck nodal metastases. *Int J Radiat Oncol Biol Phys* 2010; **77**(5): 1403-1410
- 19 **Jansen JF**, Stambuk HE, Koutcher JA, Shukla-Dave A. Non-gaussian analysis of diffusion-weighted MR imaging in head and neck squamous cell carcinoma: A feasibility study. *AJNR Am J Neuroradiol* 2010; **31**(4): 741-748
- 20 Vaessen MJ, Hofman PA, Tijssen HN, Aldenkamp AP, **Jansen JF**, Backes WH. The effect and reproducibility of different clinical DTI gradient sets on small world brain connectivity measures. *Neuroimage* 2010; **51**(3): 1106-1116
- 21 van den Biggelaar FJ, Smolders J, **Jansen JF**. Complementary and alternative medicine in alopecia areata. *Am J Clin Dermatol* 2010; **11**(1): 11-20
- 22 Vlooswijk MC, **Jansen JF**, de Krom MC, Majoie HM, Hofman PA, Backes WH, Aldenkamp AP. Functional MRI in chronic epilepsy: associations with cognitive impairment. *Lancet Neurol* 2010; **9**(10): 1018-1027
- 23 Vlooswijk MC, **Jansen JF**, Majoie HJ, Hofman PA, de Krom MC, Aldenkamp AP, Backes WH. Functional connectivity and language impairment in cryptogenic localization-related epilepsy. *Neurology* 2010; **75**(5): 395-402
- 2011
- 24 Overvliet GM, Aldenkamp AP, Klinkenberg S, Nicolai J, Vles JS, Besseling RM, Backes W, **Jansen JF**, Hofman PA, Hendriksen J. Correlation between language impairment and problems in motor development in children with rolandic epilepsy. *Epilepsy Behav* 2011; **22**(3): 527-531
- 25 Vlooswijk MC, **Jansen JF**, Jeukens CR, Majoie HJ, Hofman PA, de Krom MC, Aldenkamp AP, Backes WH. Memory processes and prefrontal network dysfunction in cryptogenic epilepsy. *Epilepsia* 2011; **52**(8): 1467-1475
- 26 Vlooswijk MC, Vaessen MJ, **Jansen JF**, de Krom MC, Majoie HJ, Hofman PA, Aldenkamp AP, Backes WH. Loss of network efficiency associated with cognitive decline in chronic epilepsy. *Neurology* 2011; **77**(10): 938-944
- 2012
- 27 Besseling RM, **Jansen JF**, Overvliet GM, Vaessen MJ, Braakman HM, Hofman PA, Aldenkamp AP, Backes WH. Tract specific reproducibility of tractography based morphology and diffusion metrics. *PLoS One* 2012; **7**(4): e34125
- 28 Braakman HM, van der Kruijs SJ, Vaessen MJ, **Jansen JF**, Debeij-van Hall MH, Vles JS, Aldenkamp AP, Backes WH, Hofman PA. Microstructural and functional MRI studies of cognitive impairment in epilepsy. *Epilepsia* 2012; **53**(10): 1690-1699

- 29 **Jansen JF**, Carlson DL, Lu Y, Stambuk HE, Moreira AL, Singh B, Patel SG, Kraus DH, Wong RJ, Shaha AR, Shah JP, Shukla-Dave A. Correlation of a priori DCE-MRI and (1)H-MRS data with molecular markers in neck nodal metastases: Initial analysis. *Oral Oncol* 2012; **48**(8): 717-722
- 30 **Jansen JF**, Schoder H, Lee NY, Stambuk HE, Wang Y, Fury MG, Patel SG, Pfister DG, Shah JP, Koutcher JA, Shukla-Dave A. Tumor metabolism and perfusion in head and neck squamous cell carcinoma: pretreatment multimodality imaging with 1H magnetic resonance spectroscopy, dynamic contrast-enhanced MRI, and [18F]FDG-PET. *Int J Radiat Oncol Biol Phys* 2012; **82**(1): 299-307
- 31 Lu Y, **Jansen JF**, Mazaheri Y, Stambuk HE, Koutcher JA, Shukla-Dave A. Extension of the intravoxel incoherent motion model to non-gaussian diffusion in head and neck cancer. *J Magn Reson Imaging* 2012; **36**(5): 1088-1096
- 32 Shukla-Dave A, Lee NY, **Jansen JF**, Thaler HT, Stambuk HE, Fury MG, Patel SG, Moreira AL, Sherman E, Karimi S, Wang Y, Kraus D, Shah JP, Pfister DG, Koutcher JA. Dynamic contrast-enhanced magnetic resonance imaging as a predictor of outcome in head-and-neck squamous cell carcinoma patients with nodal metastases. *Int J Radiat Oncol Biol Phys* 2012; **82**(5): 1837-1844
- 33 Vaessen MJ, **Jansen JF**, Vlooswijk MC, Hofman PA, Majoie HJ, Aldenkamp AP, Backes WH. White matter network abnormalities are associated with cognitive decline in chronic epilepsy. *Cereb Cortex* 2012; **22**(9): 2139-2147
- 34 van der Kruijs SJ, Bodde NM, Vaessen MJ, Lazeron RH, Vonck K, Boon P, Hofman PA, Backes WH, Aldenkamp AP, **Jansen JF**. Functional connectivity of dissociation in patients with psychogenic non-epileptic seizures. *J Neurol Neurosurg Psychiatry* 2012; **83**(3): 239-247
- 2013
- 35 Barendse EM, Hendriks MP, **Jansen JF**, Backes WH, Hofman PA, Thoonen G, Kessels RP, Aldenkamp AP. Working memory deficits in high-functioning adolescents with autism spectrum disorders: neuropsychological and neuroimaging correlates. *J Neurodev Disord* 2013; **5**(1): 14
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LE: Letters to the Editor

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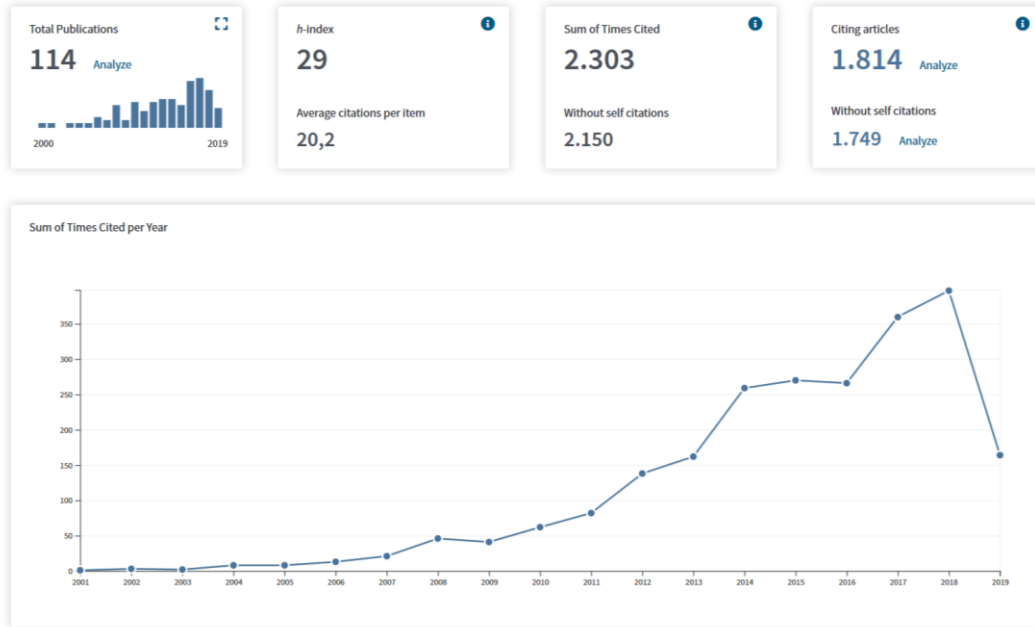
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- 1 **Jansen JF**, Wong SM, Backes WH. IVIM MRI: A Window to the Pathophysiology Underlying Cerebral Small Vessel Disease. In: Le Bihan D, Iima M, Federau C, Sigmund

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**List of ten most important publications** (including motivation, Impact Factor Journal and Publication Citation Index)

**Jansen JF**, Backes WH, Nicolay K, Kooi ME. 1H MR spectroscopy of the brain: absolute quantification of metabolites. *Radiology* 2006; **240**(2): 318-332. [IF 7.469, citations: 249]  
*This seminal review on absolute quantification of MR spectra in Radiology was featured in RSNA news and has been cited exceptionally well (relative citation ratio: 8.52).*

**Jansen JF**, Schoder H, Lee NY, Wang Y, Pfister DG, Fury MG, Stambuk HE, Humm JL, Koutcher JA, Shukla-Dave A. Noninvasive assessment of tumor microenvironment using dynamic contrast-enhanced magnetic resonance imaging and 18F-fluoromisonidazole positron emission tomography imaging in neck nodal metastases. *Int J Radiat Oncol Biol Phys* 2010; **77**(5): 1403-1410. [IF 5.554, citations: 58]  
*This is the first clinical study to combine FMISO PET with DCE MRI.*

**Jansen JF**, Stambuk HE, Koutcher JA, Shukla-Dave A. Non-gaussian analysis of diffusion-weighted MR imaging in head and neck squamous cell carcinoma: A feasibility study. *AJNR Am J Neuroradiol* 2010; **31**(4): 741-748. [IF 3.653, citations: 72]  
*First study to apply the diffusion kurtosis model in oncology.*

Vlooswijk MC, **Jansen JF**, Majoie HJ, Hofman PA, de Krom MC, Aldenkamp AP, Backes WH. Functional connectivity and language impairment in cryptogenic localization-related epilepsy. *Neurology* 2010; **75**(5): 395-402. [IF 8.055, citations: 45]  
*This manuscript is one of the first functional connectivity studies in epilepsy. It has prominently been featured in a Neurology editorial by Kimford Meador and Bruce Hermann.*

Vaessen MJ, **Jansen JF**, Vlooswijk MC, Hofman PA, Majoie HJ, Aldenkamp AP, Backes WH. White matter network abnormalities are associated with cognitive decline in chronic epilepsy. *Cereb Cortex* 2012; **22**(9): 2139-2147. [IF 6.308, citations: 71]

*This work on microstructural connectivity using diffusion MRI in chronic epilepsy highlights the possibility of graph theoretical analysis in epilepsy. The manuscript has won the best paper award from the School for Mental Health and Neuroscience, Division 1.*

van der Kruijs SJ, Bodde NM, Vaessen MJ, Lazeron RH, Vonck K, Boon P, Hofman PA, Backes WH, Aldenkamp AP, **Jansen JF**. Functional connectivity of dissociation in patients with psychogenic non-epileptic seizures. *J Neurol Neurosurg Psychiatry* 2012; **83**(3): 239-247. [IF 7.144, citations: 88]

*This manuscript constitutes the first scientific output of the neuroimaging research line in psychogenic non-epileptic seizures, which I established in 2010. It has been recommended by the faculty of 1000 (f1000.com), and has been cited exceptionally well (relative citation ratio: 5.25).*

van der Kruijs SJ, Jagannathan SR, Bodde NM, Besseling RM, Lazeron RH, Vonck KE, Boon PA, Cluitmans PJ, Hofman PA, Backes WH, Aldenkamp AP, **Jansen JF**. Resting-state networks and dissociation in psychogenic non-epileptic seizures. *J Psychiatr Res* 2014; **54**: 126-133. [IF 4.465, citations: 37]

*The follow up of the PNES imaging work features more subjects and more objective analyses.*

van Bussel FC, Backes WH, Hofman PA, van Oostenbrugge RJ, Kessels AG, van Boxtel MP, Schram MT, Stehouwer CD, Wildberger JE, **Jansen JF**. On the interplay of microvasculature, parenchyma, and memory in type 2 diabetes. *Diabetes Care* 2015; **38**(5): 876-882. [IF 13.397, citations: 13]

*The first application of IVIM in non-tumor brain.*

van Bussel FC, Backes WH, van Veenendaal TM, Hofman PA, van Boxtel MP, Schram MT, Sep SJ, Dagnelie PC, Schaper N, Stehouwer CD, Wildberger JE, **Jansen JF**. Functional Brain Networks Are Altered in Type 2 Diabetes and Prediabetes: Signs for Compensation of Cognitive Decrements? The Maastricht Study. *Diabetes* 2016; **65**(8): 2404-2413. [IF 7.273, citations: 12]

*First fMRI study to investigate prediabetes in the context of controls and diabetic patients.*

van de Haar HJ, Burgmans S, **Jansen JF**, van Osch MJ, van Buchem MA, Muller M, Hofman PA, Verhey FR, Backes WH. Blood-Brain Barrier Leakage in Patients with Early Alzheimer Disease. *Radiology* 2016; **281**(2): 527-535. [IF 7.469, citations: 84]

*First application of BBB imaging in Alzheimer's Disease. Altmetric score: 735 (highest 5%). 'Highly cited paper' according to Web of Science (relative citation ratio: 10.93). Awarded with Alexander R. Margulis Award (2017).*

## 10.2. Major received competitive funding from national and international organizations

### **Blood-brain barrier leakage as a predictive factor for poststroke epilepsy; a translational neuroimaging study**

Period: 11/19-11/23

Project coordinator: **JFA Jansen**

Other participants: WH Backes, RM Dijkhuizen (UMCU), R Rouhl

Applicant address: MUMC+

Funded by: ZonMW / Nationaal Epilepsie Fonds 446002509

Sum of contract in Euro's: € 500 000 + € 125 000 matching MUMC/UMCU

Sum to person C.V.: € 500 000

Our aims are to elucidate the relationship between blood-brain barrier (BBB) permeability and post-stroke epilepsy (PSE), and to identify potential (imaging) biomarkers for early identification of patients at risk for PSE. To that aim we will apply MRI to characterize the spatiotemporal dynamics and effects of BBB permeability in relation to the development of PSE in stroke patients, and further elucidate pathophysiological traits and mechanisms thereof in a rat stroke model.

*Results:*

N/A

### **Glymphatic dysfunction and cognitive impairment: a memory clinic study**

Period: 05/19-04/23

Project coordinator: **JFA Jansen**

Other participants: WH Backes, F Verhey, I Ramakers

Applicant address: MUMC+

Funded by: Alzheimer Nederland M0108

Sum of contract in Euro's: € 200 000 + € 150 000 matching FHML

Sum to person C.V.: € 300 000

The main objective is to improve our understanding of glymphatic dysfunction in AD. We hypothesize that glymphatic dysfunction can be linked to cognitive decline in memory clinic patients. We will investigate the relationship between MRI-derived metrics indicative of the glymphatic system, in a cross-sectional observational study.

*Results:*

N/A

### **Accelerated 1H-MRSI of the brain at 7T with reduced chemical shift displacement artefacts**

Period: 09/14-12/14

Project coordinator: **JFA Jansen**

Other participants: WH Backes, MCG Vlooswijk, Tse DH

Applicant address: MUMC+

Funded by: FHML, Maastricht University, extra scan budget call, M0108

Sum of contract in Euro's: € 37 510

Sum to person C.V.: € 20 000

The goal is to incorporate FOCI pulses and the PEPSI method into a semi LASER sequence, to minimize errors due to CSDA and realize acceptable scan times.

*Results:*

*Proc. Intl. Soc. Mag. Reson. Med. 2016; 24:3343.*

*Neuroimage Clin. 2018;19:47-55*

PhD Thesis, Tamar van Veenendaal 13-7-2017

### **Characterisation of neurotransmitter network dysfunction in MRI-negative Temporal Lobe Epilepsy**

Period: 06/14-06/15

Project coordinator: **JFA Jansen**

Other participants: WH Backes, MCG Vlooswijk

Applicant address: MUMC+

Funded by: SWOL University Foundation Limburg, Pioneer Fund S.2014.14

Sum of contract in Euro's: € 9 075

Sum to person C.V.: € 5 000

To goal is to explore the possibilities of high-field 1H-MR Spectroscopy Imaging in combination with graph theoretical analysis as a tool to assess neurotransmitter network dysfunction in patients with MRI-negative Temporal Lobe Epilepsy.

*Results:*

*Proc. Intl. Soc. Mag. Reson. Med. 2016; 24:3343.*

*Neuroimage Clin. 2018;19:47-55*

PhD Thesis, Tamar van Veenendaal 13-7-2017

### **The role of the blood-brain barrier in cerebral small vessel disease**

Period: 06/13-06/15

Project coordinator: J Staals

Other participants: R van Oostenbrugge, WH Backes, **JFA Jansen**

Applicant address: MUMC+

Funded by: Brain Foundation of the Netherlands (small grant)

Sum of contract in Euro's: €35.000

Sum to person C.V.: €8.000

This project aims to determine the relationship between BBB permeability and cognitive function in lacunar stroke patients and patients with mild vascular cognitive impairment, in a cross-sectional setting. I was involved with the supervision of the PhD student.

*Results:*

*Neurology. 2017 Jan 31;88(5):426-432.*

*J Magn Reson Imaging. 2017 Jul;46(1):159-166.*

*Neuroimage Clin. 2017 Jan 17;14:216-221.*

*Stroke. 2017 Mar;48(3):658-663.*

*AJNR Am J Neuroradiol. 2018 Jan*

PhD Thesis, May Wong, 30-1-2018

### **Small vessel angiography at 7 Tesla – morphology and pulsatility**

Period: 06/13-12/13

Project coordinator: WH Backes

Other participants: R van Oostenbrugge, **JFA Jansen**, K Uludag

Applicant address: MUMC+

Funded by: SWOL University Foundation Limburg

Sum of contract in Euro's: € 9 075

Sum to person C.V.: €3.000

The goal is to develop and tailor versatile, comprehensive, and clinically applicable MR imaging techniques to determine characterize the in vivo properties of small blood vessels and their interaction with neuronal tissue for diseases of the central nervous system. I was involved in the supervision of the postdoctoral researcher appointed on this project.

*Results:*

*Frontiers in Physiology, 2017; 8; 961*

### **MRI of the Blood-Brain Barrier - reproducibility**

Period: 01/13-07/14

Project coordinator: WH Backes / C Jeukens

Other participants: R van Oostenbrugge, J Staals, **JFA Jansen**

Applicant address: MUMC+

Funded by: Academisch Fonds, azM

Sum of contract in Euro's: €100.000

Sum to person C.V.: €20.000

This project aims to implement and validate a new MRI-methodology that enables to measure the permeability of the blood-brain barrier (BBB). This allows studying the role of the BBB in neuropathological processes involved in vascular cognitive impairment, lacunar stroke,

Alzheimer's Disease (AD), vascular dementia, hypertension, and diabetes. I was involved in the validation and optimization of the DCE-MRI technique, and the supervision of the PhD student appointed on this project.

**Results:**

*Neurology*. 2017 Jan 31;**88**(5):426-432.

*J Magn Reson Imaging*. 2017 Jul;**46**(1):159-166.

*Neuroimage Clin*. 2017 Jan 17;**14**:216-221.

*Stroke*. 2017 Mar;**48**(3):658-663.

*AJNR Am J Neuroradiol*. 2018 Jan

PhD Thesis, May Wong, 30-1-2018

**Blood-brain barrier permeability in cerebral small vessel disease: a dynamic contrast-enhanced MRI study**

Period: 01/13-12/16

Project coordinator: CE Zhang / R van Oostenbrugge

Other participants: J Staals, WH Backes, **JFA Jansen**

Applicant address: MUMC+

Funded by: NWO / ZonMW: Mozaïek grant

Sum of contract in Euro's: €200.000 + €51.100 matching CARIM/MHeNS

Sum to person C.V.: €75.000

This project aims to determine the relationship between BBB permeability and cognitive function in lacunar stroke patients and patients with mild vascular cognitive impairment, in a cross-sectional setting. I was involved in the validation and optimization of the DCE-MRI technique, and the supervision of the PhD student appointed on this project.

**Results:**

*Neurology*. 2017 Jan 31;**88**(5):426-432.

*J Magn Reson Imaging*. 2017 Jul;**46**(1):159-166.

*Neuroimage Clin*. 2017 Jan 17;**14**:216-221.

*Stroke*. 2017 Mar;**48**(3):658-663.

*AJNR Am J Neuroradiol*. 2018 Jan

PhD Thesis, May Wong, 30-1-2018

**Brein en Geest: een Geestelijk Gezond Limburg**

Period: 01/13-12/14

Project coordinator: J van Os

Other participants: : R van Oostenbrugge, JE Wildberger, WH Backes, **JFA Jansen**

Applicant address: MUMC+

Funded by: Stichting de Weijerhorst

Sum of contract in Euro's: € 3.000.000 (Allocated for Neurology & Radiology: € 667.000)

Sum to person C.V.: €160.000

The Neurology / Radiology subproject, led by Prof van Oostenbrugge and Prof Wildberger, aims at examining cerebral micro-angiopathy and cognition in lacunar stroke, using advanced MRI techniques, including DCE MRI and 7T. I was involved in the validation and optimization of these techniques, and the supervision of a PhD student and a postdoctoral researcher appointed on this project.

**Results:**

*Neurology*. 2017 Jan 31;**88**(5):426-432.

*J Magn Reson Imaging*. 2017 Jul;**46**(1):159-166.

*Neuroimage Clin*. 2017 Jan 17;**14**:216-221.

*Stroke*. 2017 Mar;**48**(3):658-663.

*AJNR Am J Neuroradiol*. 2018 Jan

*Frontiers in Physiology*, 2017; **8**; 961

PhD Thesis, May Wong, 30-1-2018

**Blood-brain barrier leakage in dementia**

Period: 01/13-12/16

Project coordinator: S Burgmans/ WH Backes

Other participants: F Verhey, **JFA Jansen**, M van Osch (Leiden), M van Buchem (Leiden)

Applicant address: MUMC+

Funded by: Alzheimer Nederland: Major Award

Sum of contract in Euro's: €291.000

Sum to person C.V.: €50.000

The present study investigates the correlation between blood-brain-barrier breakdown and cognitive decline in Alzheimer's Disease and vascular Dementia. The relationship between a permeability measure and (i) cognitive performance and (ii) the status of MRI visible cerebrovascular pathology (i.e. white matter hyperintensities, lacunar infarctions, microbleeds) in the most common forms of dementia is investigated. I was involved in the supervision of the PhD student appointed on this project.

*Results:*

*Neurosci Biobehav Rev.* 2015 Feb;**49**:71-81

*Neurobiol Aging.* 2016 Sep;**45**:190-196.

*Radiology.* 2016 Nov;**281**(2):527-535.

*Med Phys.* 2017 Aug;**44**(8):4112-4125.

PhD Thesis, Harm van de Haar, 10-11-2016

**Alexander R. Margulis Award for Scientific Excellence** from the Radiological Society of North America for *Radiology.* 2016 Nov;**281**(2):527-535.

**Population Imaging Genetics (ImaGene)**

**High-field (7T) MR Imaging genetics for early prediction of neurocognitive impairment in diabetes**

Period: 01/13-12/16

Project coordinator: W Niessen

Other participants: E Formisano, K Uludag, JE Wildberger, WH Backes, **JFA Jansen**

Applicant address: Erasmus UMC, Rotterdam.

Funded by: STW: Perspectief 2011

Sum of contract in Euro's: € 5.047.232 (€ 637.929 for Maastricht)

Sum to person C.V.: €100.000

The scientific aims of the sub-project 2.1.2, led by Prof Formisano, are to: 1) establish a link between high resolution 7T neuroimaging markers, cognitive impairment and specific genetic variants in T2D, and 2) use this knowledge to generate multi-modal image analysis software for early prediction of cognitive impairment in T2D patients. I am involved in the supervision of the PhD student appointed on this project.

*Results:*

*Neuroimage Clin.* 2018;**18**:231-44

PhD Thesis, Roy Haast, 27-06-2018

**Impact of vitamin D on neuropsychological and functional MRI outcome measures of cognition in patients with multiple sclerosis**

Period: 06/11-06/12

Project coordinator: S R Hupperts

Other participants: J Smolders, **JFA Jansen**

Applicant address: Orbis, Sittard.

Funded by: Nationaal MS Fonds: Pilot Grant

Sum of contract in Euro's: € 25 000

Sum to person C.V.: €12.500

This project explored the link between vitamin D status and signs of cognitive impairment in MS, as measured using neuropsychological testing and advanced functional MRI techniques. Unfortunately, this project has been cancelled due to logistical problems with the inclusion of the required number of patients with MS. I was coordinating the MRI scans and analysis for this project.



**VENI: Functional MRI biomarkers of cognitive decrements in diabetes**

Period: 01/11-01/15

Project coordinator: **JFA Jansen**

Other participants: WH Backes, CDA Stehouwer, MUMC+

Applicant address: MUMC+

Funded by: NWO/ZonMW, VENI 916.11.059

Sum of contract in Euro's: € 250 000

Sum to person C.V.: € 200 000

This grant investigates cognitive dysfunction in patients with diabetes mellitus type 2, using advanced functional MRI techniques.

*Results:*

*Diabetes Care 2015; 38(5): 876-882*

*Sci Rep 2016; 6(1): 10*

*Medicine (Baltimore) 2016; 95(36): e4803*

*J Neuroendocrinol 2016; 28(3): 12366*

*Diabetes 2016; 65(8): 2404-2413*

*Front Neurosci 2017; 11: 188*

PhD Thesis, Frank van Bussel, 9-6-2016

**Chronic epilepsy: from basic mechanisms to clinical outcome**

Period: 16.10.2009 - 01.12.2013

Project coordinator: AP Aldenkamp

Other participants: WH Backes, PAM Hofman, G Hoogland, **JFA Jansen**

Applicant address: MUMC+

Funded by: Dutch National Epilepsy Foundation (NEF 09-10) / School for Mental Health & Neurosciences

Sum of contract in Euro's: € 1.000.000

Sum to person C.V.: € 200.000

This project grant investigates advanced imaging methods in patients with chronic epilepsy.

*Results:*

*>40 scientific articles*

PhD theses: Vlooswijk (2011), Vaessen (2012), Overvliet (2012), Braakman (2013), Besseling (2014), van der Kruijs (2014), Ijff (2016), van Veenendaal (2017).

**Harry Meinardi Thesis award 2015** for theses of Braakman and Vaessen.

**Transferrin based molecular imaging for the early detection of oral cancer**

Period: 07/09-07/10

Project coordinator: **JFA Jansen**

Other participants: JA Koutcher, A Shukla-Dave, MSKCC, NY, USA

Applicant address: MSKCC, NY, USA

Funded by: Prevent Cancer Foundation, USA

Sum of contract in Euro's: € 71 342 (\$ 80 000)

Sum to person C.V.: € 50 000

The proposal aimed to train an established Biomedical Engineer in the field of functional cancer imaging and to develop and test MR contrast agents for head and neck cancers.

*Results:*

*Oral Oncol 2012; 48(8): 717-722*

**Neuronal determinants of cognitive disorders in patients with localization related epilepsy: a multimodal MRI investigation**

Period: 01/06-01/10

Project coordinator: WH Backes

Other participants: AP Aldenkamp, HJM Majoie, PAM Hofman, **JFA Jansen**

Applicant address: MUMC+

Funded by: Dutch National Epilepsy Foundation (NEF 06-02)

Sum of contract in Euro's: € 177 471

Sum to person C.V.: € 30 000

This grant investigated the neuronal correlates of cognitive deterioration in patients with localization-related epilepsy, using advanced MRI techniques. I was coordinating the MRI scans and analysis for this project.

**Results:**

*Clin Neurol Neurosurg.* 2008 May; **110**(5):441-50.

*Acta Neurol Scand.* 2008 Oct; **118**(4):232-9.

*Invest Radiol.* 2008 Aug; **43**(8):552-8.

*Invest Radiol.* 2009 Sep; **44**(9):509-17.

*Neurology.* 2010 Aug 3; **75**(5):395-402.

*Lancet Neurol.* 2010 Oct; **9**(10):1018-27.

*Epilepsia.* 2011 Aug; **52**(8):1467-75.

*Neurology.* 2011 Sep 6; **77**(10):938-44.

*Cereb Cortex.* 2012 Sep; **22**(9):2139-47.

*Epileptic Disord.* 2014 Sep; **16**(3):318-27.

*Neuroimage Clin.* 2018; **20**:861-7

PhD Thesis, Marielle Vlooswijk, 30-9-2011

**Voluntarily declined:**

**The assessment of oncogenesis in an animal model using nanoparticle molecular imaging**

Period: n/a\*

Project coordinator: **JFA Jansen**

Other participants: JA Koutcher, A Shukla-Dave, MSKCC, NY, USA

Applicant address: MSKCC, NY, USA

Funded by: KWF fellowship for fundamental and (pre)clinical cancer research, BUIT 2009-4424

Sum of contract in Euro's: € 306 000\*

Sum to person C.V.: € 200 000\*

This grant investigates the synthesis of novel bi-modal nanoparticles for the early detection cancer in a preclinical model of head and neck squamous carcinoma.

**Results:** n/a\*

\*N.B.: This grant is specifically intended for postdoctoral fellows performing research abroad; therefore I declined it due to my relocation to the Netherlands in 2010.

**Total to person CV: €1 933 500**

### **10.3. Received funding from industry**

**Cerebral small vessel disease markers and connectivity in the Maastricht Study**

Period: 2016 Q4-2018 Q1

Project coordinator: **JFA Jansen** on behalf of Radiology, MUMC, Maastricht

Other participants: JE Wildberger, WH Backes

Applicant address: Maastricht, Netherlands

Funded by: Scannexus BV, Maastricht

Total sum of contract: €450.000 + €54.600 (computer infrastructure) = €504.600

Sum to person C.V.: €250.000

Neuroradiological rating of microbleeds and lacunar infarcts and calculation of functional and structural connectivity for 6000 participants of the Maastricht Study.

#### **10.4. Current projects**

##### **Name project: Epilepsy and advanced imaging**

Partners: Professor Bert Aldenkamp (Neurology, Kempenhaeghe), Professor Walter Backes (Radiology), Dr Rob Rouhl (Neurology), Dr Anton de Louw (Kempenhaeghe)

Period: 2002-current

Funded by: National Epilepsy Fund & UM (MHeNS)

PhD's:

René Besseling, Sylvie van der Kruijs, Dominique Ijff, Tamar van Veenendaal, Gerald Drenthen, Lisanne Canjels, Evelien Barendse, Lalit Gupta, Ganne Chaitanya

##### **Name project: Alzheimer and advanced imaging**

Partners: Professor Frans Verhey (Psychiatry and Psychology), Professor Walter Backes (Radiology), Dr Martin van Boxtel, Dr Heidi Jacobs, Dr Inez Ramakers

Period: 2012-current

Funded by: ISAO, Alzheimer Nederland

PhD's:

Harm van de Haar, Whitney Freeze, Inge Verheggen, Merel van der Thiel

##### **Name project: Cerebral Small Vessel Disease and advanced imaging**

Partners: Professor Robert van Oostenbrugge (Neurology), Professor Walter Backes (Radiology), Dr Julie Staals (Neurology), Professor Rick Dijkhuizen (UMCU)

Period: 2013-current

Funded by: Weijerhorst Stichting, NWO Mozaiek, Hersenstichting, Academisch Fonds MUMC, ZonMW/NEF

PhD's:

May Wong, Eleana Zhang, Marieke van den Kerkhof, TBN

##### **Name project: Diabetes and advanced population imaging**

Partners: Professor Coen Stehouwer (Internal Medicine, Maastricht Studie), Professor Walter Backes (Radiology), Professor David Linden (Psychiatry), Dr Miranda Schram (Internal Medicine)

Period: 2011-current

Funded by: NWO VENI, Scannexus, MHeNs

PhD's:

Frank van Bussel, Laura Vergoossen, Jennifer Monereo Sánchez

#### **10.5. Most relevant internal, national and international collaborations**

##### **Name project: Head and Neck Cancer and advanced imaging**

Partners: Professor Amita Dave (Memorial Sloan Cancer Center, NY, USA)

Period: 2008-current

Funded by: NIH-CA

##### **Name project: Neurotransmitter Spectroscopy**

Partners: Professor Therese van Amelsvoort, Professor Jan Ramaekers, Professor Bert Joosten, Professor Richard Edden (Johns Hopkins University, Baltimore, USA), Dr Dennis Klomp (Utrecht University)

Period: 2012-current

Funded by: FHML, NIH

**Name project: Parkinson's disease and functional imaging**

Partners: Dr Mark Kuiff (Neurology)

Period: 2016-current

Funded by: MyCognition, London, UK

**10.6. Most important scientific awards**

**Awards**

- 2006 Travel Bursary Award, 7th European Congress on Epileptology, Helsinki.
- 2007 Young Investigators' Award, 27th International Epilepsy Congress, Singapore.
- 2017 Alexander R. Margulis Award for Scientific Excellence from the Radiological Society of North America: van de Haar et al. *Radiology*. 2016 Nov;281(2):527-535. DOI: [10.1148/radiol.2016152244](https://doi.org/10.1148/radiol.2016152244)
- 2018 Summa Cum Laude Award, ISMRM, Paris: Vergoossen et al. *Proc. Intl. Soc. Mag. Reson. Med.* 26 (2018), 1218.

**Honors**

- 2002 Foreign Internship Grant for Undergraduate Students (KWF; Dutch Cancer Society).
- 2002 Educational Stipend for Students and Postdoctoral Trainees, ISMRM Hawaii.
- 2004 Fellingha Travel Grant, KNCV (Royal Netherlands Chemical Society).
- 2005 Educational Stipend for Students and Postdoctoral Trainees, ISMRM Miami.
- 2006 Educational Stipend for Students and Postdoctoral Trainees, ISMRM Seattle.
- 2011 Featured in "Conversations with Academics: Secrets of Promising PhD Scholars Revealed", by Dr Catheryn Khoo-Lattimore. ISBN 0473183803.
- 2011 Session chair ISMRM Benelux meeting, Roosendaal, The Netherlands.
- 2012 Session chair ISMRM Benelux meeting, Leuven, Belgium.
- 2013 Session chair ISMRM Benelux meeting, Rotterdam, The Netherlands.
- 2014 Session chair ISMRM Benelux meeting, Maastricht, The Netherlands.
- 2017 Session chair ISMRM Benelux meeting, Tilburg, The Netherlands.
- 2017 Elected to Global Young Academy

**10.7. Contributions to meetings, seminars and lectures as invited speaker**

**Organizer & Initiator**

- 2019 Member Initiated Symposium "IVIM MRI as a non-contrast perfusion imaging modality: What to expect?", International Society of Magnetic Resonance in Medicine (ISMRM), 27<sup>th</sup> annual meeting, May 15th 2019 - Montreal, QC, Canada.

**Invited talks**

- 2002-05-20 Lecture "1H-NMR spectroscopy of stem cells in vitro demonstrates high proliferation state". 10th ISMRM, Honolulu, Hawaii, USA.
- 2003-08-26 Lecture "Spectroscopic diagnostics in epilepsy". 10th Kuopio NMR Workshop "Nuclear Magnetic Resonance Spectroscopy: From basic research to clinical applications". University of Kuopio, Kuopio, Finland.
- 2003-10-12 Lecture "Neuronal working mechanisms responsible for cognitive side-effects of the anti-epileptic drug topiramate: an investigation with functional MRI and MR spectroscopy". 25th International Epilepsy Congress, 53, Lisbon, Portugal.

- 2006-05-06 Lecture “fMRI reveals declined prefrontal cortex activation in epilepsy patients on topiramate therapy”. 14th ISMRM, Seattle, Washington, USA.
- 2006-07-04 Lecture “fMRI reveals declined prefrontal cortex activation in epilepsy patients on topiramate therapy”. 7th European Congress on Epileptology, Helsinki, Finland.
- 2007-05-19 Lecture “Reproducibility of quantitative cerebral T2 relaxometry, diffusion tensor imaging, and 1H magnetic resonance spectroscopy at 3.0 Tesla.” 15th ISMRM, Berlin, Germany.
- 2007-07-08 Lecture “Prospective brain T2 relaxometry, diffusion tensor imaging, and spectroscopy in a rat model of early life febrile convulsions”. 27th International Epilepsy Congress, Singapore.
- 2007-12-21 Lecture “Short and long term limbic abnormalities after experimental febrile seizures, an investigation using MRI and histology”, Dutch Epilepsy League Meeting, Utrecht, the Netherlands.
- 2008-05-05 Lecture “Disrupted functional connectivity networks in patients with localization-related cryptogenic epilepsy”. 16<sup>th</sup> ISMRM, Toronto, Canada.
- 2008-05-05 Lecture “An automated assessment of White Matter Lesions based on regional FLAIR intensity evaluation”. 16<sup>th</sup> ISMRM, Toronto, Canada.
- 2008-12-23 Lecture “MRI and PET in patients with head and neck cancer, An assessment of tumor microenvironment and metabolism”. Research meeting Radiology, MUMC+.
- 2009-02-25 Lecture “Non-Gaussian analysis of diffusion weighted MRI in head and neck cancer: a feasibility study”, Research Meeting Medical Physics, MSKCC, NY, USA.
- 2009-06-05 Lecture “MRI and PET in patients with head and neck cancer, An assessment of tumor microenvironment and metabolism”. Research meeting Biomedical NMR, Biomedical Engineering, Eindhoven University of Technology.
- 2010-09-14 Lecture “MRI and PET in patients with head and neck cancer, An assessment of tumor microenvironment and metabolism”. Research meeting Radiology, MUMC+.
- 2011-02-23 Lecture “Functional MRI Biomarkers of Cognitive Decrements in Diabetes”, MHeNS Research day, MUMC+.
- 2011-06-17 Lecture “Quantitative neuro-MRI in an experimental model of febrile seizures”, Bruker Symposium, department of Radiology, MUMC+.
- 2014-10-08 Lecture “Experience with GABA MEGA-PRESS at 3T in clinical studies”, Erwin L. Hahn Spectroscopy Workshop 2014, Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen, Germany.
- 2015-03-27 Lecture “Imaging in animal models of epilepsy”, [Update@kempenhaeghe.nl](mailto:Update@kempenhaeghe.nl), Epilepsy Symposium Kempenhaeghe, Heeze, The Netherlands.
- 2017-05-09 Lecture “Magnetic Resonance Spectroscopy”, Electrical Engineering, Eindhoven University of Technology.
- 2019-01-21 “IVIM and other MR techniques”, Symposium Brain clearance ('Glymphatics') and MRI, Leiden University Medical Center, The Netherlands.
- 2019-02-21 Lecture “neuroMRI, the basics”, Electrical Engineering, Eindhoven University of Technology.

## 10.8. Memberships

*(including period)*

### a. Associations/Societies

- 1997-present Royal Netherlands Chemical Society (KNCV)
- 2002-present International Society for Magnetic Resonance in Medicine
- 2009-2010 New York Academy of Sciences

2010-present International Society for Magnetic Resonance in Medicine, BeNeLux Chapter  
 2017-present Global Young Academy

b. Committees

2016-5-20 Member Thesis Committee & corona, Lucas Lindenboom, Maastricht

c. Editorial Boards

2012- present Member Editorial Board, ISRN Radiology

2006- present Journal Reviewer, Investigative Radiology  
 2006- present Journal Reviewer, Seizure - European Journal of Epilepsy  
 2006- present Journal Reviewer, Epilepsy & Behavior  
 2008- present Journal Reviewer, Neuroimage  
 2009- present Journal Reviewer, Neurological Sciences  
 2010- present Journal Reviewer, Recent Patents on Inflammation & Allergy Drug Discovery

2010- present Journal Reviewer, Medical Physics  
 2010- present Journal Reviewer, Radiology Research and Practice  
 2011- present Journal Reviewer, Journal of Neurology, Neurosurgery & Psychiatry  
 2011- present Journal Reviewer, Physica Medica: European Journal of Medical Physics  
 2011- present Journal Reviewer, Epilepsia  
 2012- present Journal Reviewer, Epilepsie: periodiek voor professionals  
 2012- present Journal Reviewer, European Journal of Neurology  
 2012- present Journal Reviewer, Trends in Biotechnology  
 2012- present Journal Reviewer, Oral Oncology  
 2012- present Journal Reviewer, European Radiology  
 2013- present Journal Reviewer, Magnetic Resonance in Medicine  
 2013- present Journal Reviewer, International Journal of Developmental Neuroscience  
 2013- present Journal Reviewer, Journal of Magnetic Resonance Imaging  
 2013- present Journal Reviewer, BMJ Open  
 2013- present Journal Reviewer, Progress in Neuro-Psychopharmacology & Biological Psychiatry

2013- present Journal Reviewer, Magnetic Resonance Imaging  
 2013- present Journal Reviewer, Neuroscience & Biobehavioral Reviews  
 2014- present Journal Reviewer, Psychological Bulletin  
 2014- present Journal Reviewer, Human Brain Mapping  
 2014- present Journal Reviewer, PLOS One  
 2015- present Journal Reviewer, Diabetes  
 2016- present Journal Reviewer, Current Alzheimer Research  
 2016- present Journal Reviewer, Frontiers in Neuroendocrinology  
 2016- present Journal Reviewer, Journal of Clinical Endocrinology & Metabolism  
 2016- present Journal Reviewer, Magnetic Resonance Imaging  
 2016- present Journal Reviewer, Psychoneuroendocrinology  
 2017- present Journal Reviewer, Atherosclerosis  
 2017- present Journal Reviewer, Epilepsy Research  
 2017- present Journal Reviewer, Frontiers in Neurology  
 2017- present Journal Reviewer, Metabolic Brain Disease  
 2017- present Journal Reviewer, Neuroimage Clinical  
 2017- present Journal Reviewer, NMR in Biomedicine  
 2017- present Journal Reviewer, Psychiatric Research: Neuroimaging  
 2017- present Journal Reviewer, American Journal of Neuroradiology  
 2018- present Journal Reviewer, Neurobiology of Aging  
 2018- present Journal Reviewer, Brain Imaging and Behavior

2018- present	Journal Reviewer, Frontiers in Neuroendocrinology
2018- present	Journal Reviewer, Theranostics
2014	Book Reviewer, Oxford University Press, section of Medicine
2018	Book Reviewer, Elsevier S & T Books
2007	Grant Reviewer: Innovational Research Incentives Scheme VIDI, Netherlands Organization for Scientific Research
2007	Grant Reviewer: Tinnitus Research Initiative, USA
2010, 2013, 2017	Abstract Reviewer, ISMRM
2010, 2011	Grant Reviewer: ZonMw's 'Health Care Efficiency Research Programme Early Evaluation of Medical Innovation', The Netherlands
2011- 2017	Abstract Reviewer, ISMRM BeNeLux
2011	Grant Reviewer, Integrated Research Action Programme, Upper Aerodigestive Tract Cancers, France
2012	Grant Reviewer: Innovational Research Incentives VENI, Netherlands Organization for Scientific Research
2014	Grant Reviewer: Medical Research Council, UK
2016, 2018	Grant Reviewer: Swiss National Science Foundation
2017	Grant Reviewer: FWF Austrian Science Fund
2018	Grant Reviewer: Epilepsy Research UK
2019	Grant Reviewer: Geneva University Hospitals and Faculty of Medicine Research Foundation (Fondation Privée HUG)
2019	Grant Reviewer: Netherlands Epilepsy Fund (NEF)

## 11. Societal impact

### 11.1. Media exposure

*TV, radio, interviews, opinion articles, contribution to public discussions on forums, television, in social media.*

#### Interviews

30-05-2007	Omroep Brabant, Radio interview on the occasion of my PhD Defense, by Eefke Boelhouwers.
31-05-2007	TU/e Cursor, [Met de MRI-scanner zoeken naar hersenschade door epilepsie], by Ivo Jongsma.
Dec-2007	Episcoop, [Nieuwe 'brillen' geven beter zicht op hersenen], by Pieter Lomans.
31-05-2016	New Scientist, Vaccines might be able to stop Alzheimer's plaques from forming, by Anil Ananthaswamy and Alice Klein.
18-07-2016	Thomson Reuters, Diabetes Linked to Brain Atrophy in Elderly Japanese, by Will Boggs MD.
01-08-2016	American Diabetes Association, Underlying Functional Brain Networks May Be Altered in Prediabetes and Type 2 Diabetes, by Max Bingham, PhD.
Winter 2017	Proto magazine, Massachusetts General Hospital, Why Plaque Attacks, by Anil Ananthaswamy.

#### Exposure

2007	TU/e Press Release (May 31 <sup>st</sup> , 2007): [TU/e-onderzoeker zoomt in op epilepsie].
2010	Editorial in Neurology, 'How localized is localization-related epilepsy?', by Meador KJ, Hermann B, featuring Vlooswijk et al., <i>Neurology</i> . 2010 Aug 3;75(5):395-402.
2010	Maastricht Aktueel (October 7, 2010): [Nieuwe analysetechniek epilepsie].

- 2011 Recommended for F1000prime by Duncan R, featuring van der Kruijs et al., *J Neurol Neurosurg Psychiatry* 2012; **83**(3): 239-247.
- 2011 Editorial in Neurology, 'Networks, cognition, and epilepsy' , by Meador KJ, featuring Vlooswijk et al., *Neurology*. 2011 Sep 6;77(10):938-44.
- 2016 Cover of Journal of Neuroendocrinology: van Bussel et al. *J Neuroendocrinol*. 2016 Mar;28(3):12366.
- 2016 van de Haar et al. "Blood-Brain Barrier Leakage in Patients with Early Alzheimer Disease". *Radiology*. 2016 Nov;281(2):527-535. (84 citations as of 8/4/19)
- Altmetric score: 734 (88 news outlets, 5 blogs, 18 tweeters, 3 facebook pages). (in top 5% of all research outputs scored by Altmetric)
  - 'Highly cited paper' according to Web of Science.
  - RSNA Press Release (May 31, 2016): Leaky Blood-Brain Barrier Linked to Alzheimer's Disease
  - NRC (1 juni 2016): Dementie kan ontstaan door lek in bloedvaten
  - Alexander R. Margulis Award (2017)
  - RSNA Press Release (November 27, 2017): Alzheimer's Research Receives RSNA Margulis Award
- 2017 Editorial in Neurology, 'A dysfunctional blood-brain barrier and cerebral small vessel disease', by Hainsworth AH, Fisher MJ, featuring Zhang et al. *Neurology*. 2017 Jan 31;88(5):426-432.
- 2019 Editorial in Neurology, 'White matter lesions in cerebral small vessel disease: Underperfusion or leaky vessels?', by Hainsworth AH, featuring Wong SM et al. *Neurology*. 2019. DOI 10.1212/WNL.00000000000007263

### **Societal Impact**

#### *Twitter*

@jfajansenphd, Dr Jacobus FA Jansen. 97 followers

#### *Facebook*

@MaastrichtCNI, Maastricht Clinical Neuro Imaging. 79 followers

#### *Website*

www.jansenjfa.com

### **11.2. Public events**

*Lectures/workshops for health care professionals and/or general public/patients.*

N/A

### **11.3. Patents/spin-offs**

N/A

### **11.4. Advisory reports for policy makers and/or clinical guidelines**

N/A

### **11.5. Memberships (top 10) of civil society advisory bodies**

*A committee responsible for a (inter)national (health) policy report e.g. for/by an (inter)national government (for example the Ministry of Health, Health Council, Health Insurance Board or a EU committee) or major NGO (e.g. WHO).*

N/A