

# Marion Smits .

CURRICULUM VITÆ  
JANUARY 2021

Marion is an internationally active Neuroradiologist who combines clinical work with scientific research into applied physiological MR neuroimaging, such as functional MRI, diffusion and perfusion imaging. She uses these techniques to visualise the brain's function and microarchitecture, and to study pathophysiological and regenerative processes in a variety of neurological diseases. Her main focus is on neuro-oncology.

Marion combines her clinical expertise with scientific research and active participation in key international organisations, including the European Society of Radiology (ESR), the European Society of Neuroradiology (ESNR), the European Society for Magnetic Resonance in Medicine and Biology (ESMRMB), the International Society for Magnetic Resonance in Medicine (ISMRM), the European Organisation for Research and Treatment of Cancer (EORTC), and the National Brain Tumor Society (NBTS). She uses this unique combination of affiliations to establish productive connections between relevant clinical research questions and to implement scientific innovation in clinical practice, while disseminating knowledge and expertise through her numerous national and international teaching activities.

## CURRENT RESPONSIBILITIES AND AFFILIATIONS

Professor of Applied Physiological Neuroimaging, Chair of Neuroradiology  
Erasmus MC – University Medical Centre Rotterdam, Rotterdam/NL

### Honorary Consultant

University College London Hospital NHS Foundation Trust, London/UK

### Chair, Member of Executive Council

European Society of Radiology (ESR) Publications Committee

### Past President

European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)

### (Past) Chair

- EORTC Imaging Group (Past Chair)
- EORTC Brain Tumour Group Imaging subcommittee (Chair)

### Chair

Section of Neuroradiology of the Radiological Society of the Netherlands

### National Delegate for the Netherlands

- European Society of Neuroradiology (ESNR)
- Union Européenne des Médecins Spécialistes (UEMS) division of Neuroradiology

### Chair

Erasmus MC Neuroradiology fellowship programme, Rotterdam/NL

### Active member [upon invitation]

- Medical Delta Scientific Board
- ESNR Diagnostic committee - chair of neuro-oncology working group
- Dutch Brain Tumour Registry scientific board
- Dutch Guideline Committees on quality of neuro-oncological care, brain metastasis, and glioma
- Dutch Cancer Society KWF, scientific assessment committee
- Brain Tumor Imaging Standardization Steering Committee
- Quantitative Imaging Biomarker Alliance (QIBA) working group on ASL

- 2020 Honorary Member of the American Society of Neuroradiology
- ESR Executive Council
- Neuroradiology Chair at Radiological Society of the Netherlands (NVvR)
- President of ESMRMB (2020)
- Visiting Professor at Memorial Sloan Kettering Cancer Center (2018) and Johns Hopkins Medical Institution (2015)
- ESR Leadership Institute
- Young Health Council ('JongGR')
- PhD *cum laude* (2008)
- EUR Fellowship (2009)
- Lourens Penning Prize (2007)
- Marie Curie Fellowship (2003)

128

invited lectures

134

journal publications

6.7

average impact factor

35

H-index (Web of Science)

€4.8 million

current funding



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30 April 1972, Lugarawa/TZ

nationality:  
Dutch

medical license/NL:  
79048428201

## CURRICULUM VITÆ

I am ideally positioned to perform my clinically oriented research and disseminate my knowledge and expertise, due to my combined clinical and scientific appointment in the largest academic hospital in the Netherlands and my extensive national and international network.

My work consist of four inter-related and equally important pillars:

1. Clinical patient care .....page 3
2. Research .....page 4
3. Teaching .....page 9
4. Promoting neuroimaging innovations in clinical practice .....page 10

Appendices:

- Publications .....page 13
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## WORKING HISTORY

Full Professor of Applied Physiological Neuroimaging  
2018-present Erasmus MC, Rotterdam/NL  
Head of department: Prof. dr. G.P. Krestin

Honorary Consultant and Reader  
2014-present University College Hospital London/UK  
Head of department: Prof. dr. X. Golay

Consultant Neuroradiologist  
2009-present Erasmus MC, Rotterdam/NL  
Head of department: Prof. dr. G.P. Krestin

Associate Professor  
2012-2018 Erasmus MC, Rotterdam/NL  
Head of department: Prof. dr. G.P. Krestin

Assistant Professor  
2011-2012 Erasmus MC, Rotterdam/NL  
Head of department: Prof. dr. G.P. Krestin

Neuroradiology clinical fellow  
2007-2009 Erasmus MC, Rotterdam/NL  
Head of department: Prof. dr. G.P. Krestin

Marie Curie European research fellow  
2003-2004 Department of Radiology, University  
Hospitals K.U.Leuven/BE  
Principal investigators: Prof. dr. S. Sunaert, Prof. dr. P.  
van Hecke

PhD research: Imaging in minor head injury  
2002-2008 Erasmus MC, Rotterdam/NL  
Principal investigator: Prof. dr. M.G.M. Hunink

Resident in Radiology  
2000-2008 Erasmus MC, Rotterdam/NL  
Head of department: Prof. dr. G.P. Krestin

## Resident in Neurology

1999-2000 St. Lucas/Andreas Hospital, Amsterdam/NL  
Head of department: Dr. J. Vanneste

Junior/senior house officer in General Medicine/UK  
1999 The North Hampshire Hospital, Basingstoke  
1999 Finchley Memorial Hospital, London  
1998-1999 Walsall Manor Hospital NHS Trust, Walsall

## EDUCATIONAL HISTORY

Neuroradiology subspecialisation  
1 April 2009 Radiological Society of the Netherlands

Doctor of Philosophy *cum laude*  
25 June 2008 Erasmus University Rotterdam/NL  
PhD supervisor: Prof. dr. M.G.M. Hunink

Full specialist qualification in Radiology  
1 April 2008 Erasmus MC, Rotterdam/NL

Radiology certificate  
13 February 2003 Radiological Society of the  
Netherlands

Radiation Protection for Radiologists (level 3M)  
4 October 2001 IRS Leiden/NL

Doctor of Medicine *with distinction*  
2 February 1998 Maastricht University/NL

## Arts and Sciences

1994-1995 Maastricht University/NL  
Environmental philosophy, History and philosophy of  
natural sciences, History of sociology, 20th Century  
philosophy of consciousness, Literature interpretation  
according to Freud and Jung, Medical ethics

### *electives*

#### (Neuro)radiology

1997 University Hospital Maastricht/NL

#### International electives in Cardiology and Child

#### Psychiatry

1993 McMaster University, Hamilton, Ontario (CA)

### *selected completed courses*

Good clinical practice (GCP): Basic course on research organisation and regulation for clinical researchers (BROK)

2020, 2015, 2011 Erasmus MC, Rotterdam/NL

#### ESR Leadership Institute workshop

2013 Management in Radiology, Barcelona/ES

#### Erasmus MC Leadership Programme

2013 Erasmus MC, Rotterdam/NL

#### Basic teaching qualification (BKO)

2013 Individual supervision, Rotterdam/NL

2011 Teach the teacher module III, Rotterdam/NL

#### PhD student management

2011 Hakuna Matata, Rotterdam/NL

#### Female Career Development Programme

2009-2010 Erasmus MC, Rotterdam/NL

#### European Course cycle on Neuroradiology (ECNR)

2008-2009 Rome/IT, Tarragona/ES, Basel (CH)

#### Erasmus Courses CNSI, CNSII, Head & Neck

2002, 2007, 2010 Brussels/BE, London, Bruges/BE

#### MSc Module Memory and Attention

2005 Helmholtz Institute, Utrecht/NL

#### Epidemiology Summer Programme

2003, 2004, 2005 NIHES, Rotterdam/NL

#### Radiologic Pathology

2003 Armed Forces Institute of Pathology, Washington DC/US

#### Basic and Advanced Applied MR Techniques

2001, 2002 School of MRI, Paris/FR, Madrid/ES

## CLINICAL PATIENT CARE

I am chief of Neuroradiology and my clinical work encompasses the full spectrum of diagnostic Neuroradiology and Head & Neck Radiology. I use my specific expertise in neuro-oncology and neurodegenerative disease, at respectively the Erasmus MC Brain Tumour Centre and the Alzheimer Centre Southwest Netherlands. Nationally, I am a leading expert in the clinical application of functional MRI and DTI for brain tumour surgery.

Beyond patient care, I work on developing guidelines and procedures, and quality assurance. I am in charge of the MR neuroimaging protocols that ensure the highest quality and implementation of imaging techniques. I am a strong advocate for several innovations in clinical Radiology, such as structured reporting, protocol harmonisation, and integrated diagnostics.

Together with my counterparts in other disciplines, I have achieved the following:

- several templates such as for the reporting of brain tumour follow-up and diagnosis of dementia are now in place;
- together with the Alzheimer Centre we are harmonising dementia imaging protocols within the Rotterdam region;
- within the Brain Tumour Centre we are integrating imaging, histopathology and molecular biology in the final diagnosis.

The logistics for these innovations are challenging but an important aim to keep working towards.

## RESEARCH LINE & RESEARCH GROUP

Applied physiological neuroimaging is my research line, which aims to provide imaging markers of brain physiology and disease that are directly clinically applicable. My research is now primarily focused on neuro-oncology, while I previously also studied neurodegenerative disease and recovery after stroke.

The clinical application and implementation of physiological neuroimaging techniques, commonly only used in the research arena, are an essential aspect of my research. I pursue my research goals through the continuous interplay between technical innovation of imaging techniques and clinical practice. My combined clinical (40%) and research (60%) appointment makes this possible.

Since obtaining my PhD in 2008 I supervised 6 PhD theses to completion. My current research group consists of 9 PhD students, 1 assistant professor, 2 post-doctoral researchers, 1 clinical fellow, and a variable number of MSc students. I work closely with the MRI physics group (PI: prof. dr. J. Hernandez Tamames) and Biomedical Imaging Group Rotterdam (BIGR, PI: prof. dr. W. Niessen). I conduct this research in close collaboration with clinically oriented researchers, both nationally and internationally, including Neurologists, Neuro Oncologists, Neurosurgeons, Rehabilitation Physicians, (Neuro)Psychologists, and Neurolinguists.

I have an honorary appointment at UCL NHS Foundations Trust in London/UK, where I did a 6 months' research sabbatical in 2014, and continue to collaborate with the MR physics group (PI: prof. dr. X. Golay).

## SUPERVISION ACTIVITIES & ACHIEVEMENTS

### *PhD student supervision (as 'promotor')*

C. Tseng

2020 *Imaging neurotoxicity after proton therapy.*

S. Derks

2020 *Imaging in melanoma metastasis.*

K. Venogupal

2020 *Vascular signature mapping in brain tumours.*

I.J. Pruis

2019 *Added value of PET imaging for CNS tumours.*

W. Teunissen

2019 *Value of perfusion MRI in brain tumours.*

F. Arzanforoosh

2018 *Advanced perfusion and oxygenation imaging.*

Y. Wu

2018 *CEST and proteomics in low grade glioma.*

K. van Garderen

2018 *Longitudinal radiogenomics of low grade glioma.*

F. Incekara

2016 *Imaging and resection of glioblastoma.*

PhD defence on 10 March 2021 at Erasmus University Rotterdam, Rotterdam/NL, now Neurosurgical resident.

S.R. van der Voort

2016 *MR radiogenomics in neuro-oncology: the iGENE study.* Now post-doctoral researcher.

R. Gahrmann

2014 *MRI based response assessment and diagnostics in glioma.*

PhD obtained on 2 April 2019 at Erasmus University Rotterdam, Rotterdam/NL, now Neuroradiologist in training.

### *PhD student supervision (as 'co-promotor')*

R. Meijboom

2012 *Imaging of brain connectivity in dementia: clinical implications for diagnosis of its underlying diseases.*

PhD obtained on 31 January 2017 at Erasmus University Rotterdam, Rotterdam/NL, now post-doctoral researcher at Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh/UK.

E.E. Bron

2011 *Advanced MRI analysis for computer-aided diagnosis of dementia.* PhD obtained on 9 March 2016 at Erasmus University Rotterdam, now assistant professor at Erasmus MC, Rotterdam/NL.

R.M.E. Steketee

2009 *Advanced MR neuroimaging in early stage presenile dementia.* PhD obtained on 5 February 2016 at Erasmus University Rotterdam, now post-doctoral researcher at Erasmus MC, Rotterdam/NL.

C.P. Méndez Orellana

2009 *Functional MRI of language processing and recovery*. PhD obtained on 30 June 2015 at Erasmus University Rotterdam, now assistant professor at Pontificia Universidad Católica de Chile, Santiago de Chile/CL.

J. Papma

2008 *Vascular versus non-vascular MCI: the FIND study*. PhD obtained on 7 December 2012 at Erasmus University Rotterdam, now assistant professor and research coordinator at Alzheimer Centre Southwest Netherlands, Rotterdam/NL.

### *Other supervision*

S.E.M. Veldhuijzen van Zanten, clinical post-doctoral researcher

2019-present *Theranostic PET imaging for the management of CNS tumours*.

E. Warnert, assistant professor

2017-present *Bench-to-bedside imaging biomarkers*.

J. Jaspers, Radiation Oncology PhD candidate

2019-present *Proton therapy in glioma*.

A. de Leeuw, MSc student

2020 *Perfusion MRI for neuro-oncology*.

A. Alafandi, clinical researcher

2020 *Neuro-oncological imaging*.

A. Lavrova, ESR Bracco fellow

2020 *ASL neuro-oncological imaging*.

J. Zhao, European School of Radiology Bracco fellow

2019 *Neuro-oncological imaging*.

C. Ganazzoli, European School of Radiology fellow

2018-2019 *Neuro-oncological imaging*.

E.E. Bron, assistant professor

2016-2018 *Image analysis techniques for neurodegenerative disease*.

R.M.E. Steketee, post-doctoral researcher

2016-2018 *Advanced imaging in dementia*.

I. Boukrab, clinical researcher

2018 *Neuro-oncological imaging*.

G. Kapsas, European School of Radiology fellow

2017-2018 *DWI for neuro-oncology*.

M. van Riel, MSc student

2018 *Multivariate prediction of overall survival in low grade glioma*.

W. van der Loo, MSc student

2018 *Clustering algorithms for parametric mapping of brain tumour physiology*.

S. Koene, MSc student

2018 *Perfusion and diffusion radiogenomics of presumed low grade glioma*.

M.M.M.E. Habeeb, MSc student

2017 *Arterial spin labelling MRI in diagnosis of dementia: longitudinal imaging, clinical implementation, and MR sequence evaluation*.

E. Carey, MSc student

2017 *Language function assessment and white matter tract invasion in presumed pre-operative low-grade glioma patients*.

L. Ham, MSc student

2015 *Resting state functional MRI and diffusion tensor imaging in dementia*.

F. Incekara, MSc student

2014-2016 *Functional deficits of language tract tumour invasion*.

S. Detiger, MSc student

2014 *Resting state functional MRI in dementia*.

E. Gravesteyn, MSc student

2014 *Neurophysiology of hunger and satiety*.

S. Kalloe, MSc student

2013 *Cerebellar lateralisation of language in left-handers*.

R. Zuur, MSc student

2013 *Resting state functional MRI in dementia*.

J.C. Kabagema, MSc student

2012 *Resting state fMRI of brain tumour patients*.

R. Meijboom, MSc student

2012 *Functional MRI of memory and emotion recognition in dementia*.

A. Weterings, MSc student

2012 *Functional MRI of language recovery in aphasia*.

I. Boukrab, MSc student

2012 *Functional MRI of satiety in obese children*.

L. Carati, MSc student

2012 *Brain tumour response assessment on MRI in the multicentre BELOB study*.

S. Ooms, MSc student

2011 *Value of arterial spin labelling in dementia*.

R. Gahrman, MSc student

2011 *MR imaging of the brain in paroxysmal kinesigenic dyskinesia*.

R. Tjiong, MSc student

2011 *DSC perfusion characteristics of high-grade gliomas*.

A. Bechan, MSc student  
2010-2011 *Brain plasticity in melodic intonation language therapy after aphasic stroke.*

S. Klip, MSc student  
2009 *Processing of speaking versus singing in healthy volunteers.*

D. Bos, MSc student  
2007 *Optimisation of fMRI hypercapnia paradigms at 1.5T and 3.0T.*

C.P. Kralt, MSc student  
2006 *Comparison of fMRI analysis software packages.*

D.A. van Rijssel, MSc student  
2006 *Cost-effectiveness of selective CT in minor head injury: methodology.*

## GRANT ALLOCATION

TU Delft/Erasmus MC Convergence: €330,000  
2019-2021 Quantitative susceptibility MRI: deep insights in cardio- and neuro-vasculature (co-applicant)

EU COST: €400,000  
2019-2023 Glioma MR Imaging 2.0: GLiMR2.0 (co-applicant & workpackage leader; CA18206)

NWO-TTW Open Technology Programme: €863,196  
2020-2025 Vascular Signature Mapping of Brain Tumor Genotypes (main applicant)

ZonMW Leading the Change: €589,733  
2019-2022 The clinical value of perfusion MRI in primary and secondary brain tumour surveillance (main applicant; project number 80-85009-98-2008-NVvR)

Medical Delta: €380,000  
2019-2023 Cancer Diagnostics 3.0: Big data science of *in* & *ex vivo* imaging (main applicant)

HollandPTC-Varian: €298,962  
2018-2022 New methodology for developing biomarkers of radiation-induced toxicity in brain tumour patients based on advanced MR imaging of the microvasculature and white matter microstructure (co-applicant; project number 2018017)

HollandPTC-Varian: €279,924  
2018-2022 Improving toxicity modelling, patient selection and clinical outcome of proton therapy in low grade glioma (co-applicant; project number 2018013)

Brain Tumour Charity: €136,062  
2018-2020 Making the invisible visible: In vivo mapping of molecular biomarkers in adult diffuse glioma with CEST MRI (main applicant; projectnumber GN-000540)

Koningin Wilhemina Fonds: €1,218,641  
2017-2021 Glioma Longitudinal AnalySiS in the Netherlands: GLASS-NL (co-applicant & workpackage leader; projectnumber 11026)

Koningin Wilhemina Fonds: €480,000  
2015-2019 Non-invasive phenotyping of molecular brain tumour profiles using novel advanced MR imaging and analysis (main applicant; projectnumber EMCR 2015-7859)

Johns Hopkins Medical Institution: \$10,000  
2015 Milosh Perovitch visiting professorship (personal grant)

Tour de Rotterdam: €45,000  
2015-2016 Dementia diagnosis: better and faster (main applicant)

Coolsingel Foundation: €35,000  
2012-2014 The VESPA study: multivendor reproducibility of brain perfusion measured with arterial spin labeling MRI (main applicant)

Erasmus MC grant: €150,000  
2011-2015 Brain plasticity of language recovery after aphasic stroke (main applicant)

Erasmus MC grant: €150,000  
2011-2015 Advanced MR Neuroimaging in presenile dementia: early differentiation between Alzheimer's disease and frontotemporal dementia by multimodal analysis (co-applicant)

Coolsingel Foundation: €45,000  
2010-2011 Automated digital assessment of MR imaging in dementia (main applicant)

EUR Trust Fund: €50,000  
2011-2012 Uncovering synchronous neural processes associated with building and maintaining trust-based economic exchanges using fMRI-based hyperscanning (co-applicant)

EUR Trust Fund: €25,000  
2011 Integrated EEG-fMRI scanning (co-applicant)

EUR Fellowship: €200,000  
2009-2013 Advanced MR Neuroimaging in presenile dementia (main applicant, personal grant)

GE Healthcare Educational Funding: €6,000  
2008 Regional course on radiology-anatomy correlation

Van Walree Fund: €1,250  
2007 Royal Netherlands Academy for Arts and Sciences (main applicant, personal grant)

ZonMW DO (945-06-309): €125,600  
2006-2008 Cost-effectiveness of CT in minor head injury (co-investigator)

Marie Curie European Research Fellowship: €10,800  
2003-2004 functional MRI at the Catholic University Leuven/BE (main applicant, personal grant)

## INTERNATIONAL RESEARCH VISITS

Johns Hopkins Medical Institution - Department of Neuroradiology - Visiting Professor (1 month)  
2015 Baltimore, MD/US

University College London National Hospital for Neurology and Neurosurgery 'Queen Square' - hon. Consultant and Reader (6 months on site, continued appointment)  
2014-present London/UK

K.U.Leuven Department of Radiology - Marie Curie research fellow (9 months)  
2003-2004 Leuven/BE

## HONOURS AND AWARDS

ASNR Honorary Member  
2020 American Society of Neuroradiology

Visiting Professor for the Henry M. Selby, MD, FACR Young Investigators Lecture  
2018 Memorial Sloan Kettering Cancer Center, New York, NY/US

Knowledge Ambassador City of Rotterdam  
2015-present City of Rotterdam/NL

'Milosh Perovitch' Visiting Professor 2015  
2015 Johns Hopkins Medical Institution, Baltimore, MD/US

Third Prize European Brain Expert Contest 2008  
2008 GE Healthcare, Milwaukee, IL/US

Lourens Penning Prize 2007  
2007 Section of Neuroradiology, Radiological Society of the Netherlands/NL

Nomination Dutch Radiology Conference Prize  
2007 12<sup>th</sup> Dutch Radiology Conference, Rotterdam/NL

ISMRM Educational Stipend  
2007 Joint annual meeting ISMRM-ESMRMB, Berlin/DE

Organisation for Human Brain Mapping Travel Award  
2006 Human Brain Mapping 12<sup>th</sup> annual meeting, Florence/IT

Nomination Ernst Schering Prize  
2004 9<sup>th</sup> Dutch Radiology Conference, Noordwijkerhout/NL

First prize for oral presentation  
1998 10<sup>th</sup> European Conference for Students and Young Doctors, Berlin/DE

Nomination Ernst Schering Prize  
1998 3<sup>rd</sup> Dutch Radiologist Radiology Conference, Veldhoven/NL

First prize for poster presentation  
1998 2<sup>nd</sup> Maastricht Medical Students Research Conference, Maastricht/NL

## MISCELLANEOUS RESEARCH ACTIVITIES

### *PhD review committee*

L. Tap ('grote commissie')  
11 Nov 2020 Age-related renovascular changes. Consequences in late life. (EUR, Rotterdam/NL).

S.R. van Tiel ('kleine commissie')  
16 Oct 2020 Cellular imaging in regenerative medicine, cancer and osteoarthritis. (EUR, Rotterdam/NL).

R.A. Feis ('grote commissie')  
14 Oct 2020 Neuroimaging biomarkers in genetic frontotemporal dementia: towards a timely diagnosis. (LUMC, Leiden/NL).

M. Visser ('grote commissie')  
25 Sep 2020 Accurate quantification of glioma on MRI. (VU, Amsterdam/NL).

I.M. Groenendijk ('kleine commissie', secretary)  
16 Sep 2020 Bladder dysfunction in the context of the bladder-brain connection. (EUR, Rotterdam/NL).

E.M. Delhaas ('grote commissie')  
31 May 2020 Intrathecal Baclofen administration in severe spasticity. (EUR, Rotterdam/NL).

N. Verburg ('kleine commissie')  
23 Jan 2020 Advanced imaging for glioma therapy. (VU, Amsterdam/NL).

S. Dávid ('grote commissie')  
16 Jan 2020 Impact of data processing on diffusion MR image exploration and understanding. (UU, Utrecht/NL).

K. Foks ('kleine commissie', secretary)  
18 Dec 2019 Acute Management of Minor Head Injury. (EUR, Rotterdam/NL).

L. Vaclavu ('grote commissie')  
20 June 2019 Haemodynamic MRI in Sickle Cell Disease. (UvA, Amsterdam/NL).

M. Wijnenga ('kleine commissie', secretary)  
28 May 2019 Prognostication and surgical management

of diffuse gliomas in the era of molecular diagnostics. (EUR, Rotterdam/NL).

A. van Oppbroek ('grote commissie')

6 June 2018 Transfer learning for medical image segmentation. (EUR, Rotterdam/NL).

R. Schiller ('grote commissie')

29 May 2018 The vulnerable brain. Neurodevelopment after neonatal critical illness. (EUR, Rotterdam/NL).

X. Zhang ('kleine commissie')

31 January 2019 Expanding the capabilities of Arterial Spin Labeling MRI (Leiden University, Leiden/NL).

C.D. Langen ('kleine commissie' secretary)

18 April 2018 Short circuit: How brain connectivity and disconnectivity relate to brain function (EUR, Rotterdam/NL).

R. Meijboom ('co-promotor')

31 January 2017 Imaging of brain connectivity in dementia: clinical implications for diagnosis of its underlying diseases (EUR, Rotterdam/NL).

L. Blanken ('kleine commissie' secretary)

9 November 2016 The neurobiology of childhood psychiatric symptoms in the general population (EUR, Rotterdam/NL).

E.E. Bron ('co-promotor')

9 March 2016 Advanced MRI analysis for computer-aided diagnosis of dementia (EUR, Rotterdam/NL).

R.M.E. Steketee ('co-promotor')

5 February 2016 Advanced MR neuroimaging in early stage presenile dementia (EUR, Rotterdam/NL).

E.G.P. Dopper ('kleine commissie')

4 September 2015 Familial frontotemporal lobar degeneration: phenotypical characterization of presymptomatic and clinical disease stages (EUR, Rotterdam/NL).

C.P. Méndez Orellana ('co-promotor')

30 June 2015 Functional MRI of language processing and recovery (EUR, Rotterdam/NL).

V. Verlinden ('grote commissie')

18 March 2015 Epidemiology of gait and daily functioning (EUR, Rotterdam/NL).

J. Pappa ('co-promotor')

7 December 2012 Vascular versus non-vascular MCI: the FIND study (EUR, Rotterdam/NL).

M. Luijten ('kleine commissie')

23 November 2012 Neurocognitive insights in nicotine addiction (EUR, Rotterdam/NL).

M. Michielsen ('grote commissie')

18 June 2012 Reflections on mirror therapy after stroke: Mechanisms and effectiveness for improving hand function (EUR, Rotterdam/NL).

### *editorial board*

2021-present Magnetic Resonance Materials in Physics, Biology and Medicine: MAGMA.

### *journal peer review*

JAMA, Annals of Internal Medicine, PLoS One, NeuroImage, NMR in Biomedicine, Neurobiology of Aging, NeuroImage: Clinical, American Journal of Neuroradiology, Radiology, Neuroradiology, Insights into Imaging, Brain Imaging and Behavior, Archives of Physical Medicine and Rehabilitation, British Journal of Surgery, European Radiology, European Journal of Radiology, Journal of Magnetic Resonance Imaging, Psychiatry Research: Neuroimaging, Journal of Healthcare Engineering, Journal of Neuroimaging, Clinical Neuroradiology, Otolaryngology.

### *grant review*

ZonMW Health Care Efficiency Research Programme/NL, ZonMW Veni Programme/NL, The Brain Tumour Charity/UK, Research Foundation Flanders/BE, Swiss National Science Foundation/CH, Wellcome Trust/UK, Medical Research Council/UK, KiKa/NL, Dutch Cancer Society KWF/NL.



## TEACHING

Teaching is a key part of my work to advance neuroimaging by bringing new techniques into clinical practice. As co-chair of the Neuroradiology fellowship programme at Erasmus MC, I apply my passion for training the next generation of radiologists in Neuroradiology in the Netherlands.

I frequently teach for several professional societies in the international Radiology community, at training courses, invited lectures, and conferences. I am permanent faculty member of the two most important European courses in Neuroradiology (ECNR) and MRI techniques (ESMRMB School of MRI). I have furthermore organised numerous European courses for the Neuroradiological and Neuroscientific community.

### TEACHING ACTIVITIES

#### *Local & national teaching*

see also page 32.

##### Neuroradiology

2017-present national Neuroradiology subspecialist education ('differentianten'), Society of Radiology of the Netherlands, Utrecht/NL

##### Neuroanatomy and Neuroradiology

2008-present Regional Radiology specialist education ('aios'), Erasmus MC Rotterdam/NL

##### MR neuroimaging: technique and protocols

2011-present Regional Radiology specialist education ('aios'), Erasmus MC Rotterdam/NL

##### Imaging in dementia

2016 Clinical Technology, Erasmus MC Rotterdam/NL

##### Imaging of neurodegenerative disease

2008, 2010, 2011 Geriatrics/Neurology specialist education, Erasmus MC Rotterdam/NL

##### MR neuroimaging

2009, 2010, 2011 Rehabilitation specialist education, Rijnland Rotterdam/NL

##### Introduction to Radiology

2001-2008 Medicine (5<sup>th</sup> year), Erasmus MC Rotterdam/NL

##### Advanced neuroimaging in aphasia

2005, 2007 Postgraduate education for speech therapists, Erasmus MC Rotterdam/NL

##### Epidemiology and medical decision making

2003-2006 Medicine (5<sup>th</sup> year), Erasmus MC Rotterdam/NL

##### Medical decision making practicals

2006 Medicine (4<sup>th</sup> year), Erasmus University Rotterdam/NL

##### Validation of decision rules for the use of CT in minor head injury

2006 NIHES Summer Programme, Rotterdam/NL

#### *International teaching*

see also page 32.

##### Course organiser

2017, 2019 Level III ESNR course on glioma imaging, Milan/IT

##### Permanent faculty member

2011-present European course of Neuroradiology (ECNR)

##### Permanent faculty member/Course director

2009-present European School of MRI: fMRI & DTI in clinical practice

2012-2016 as course director

#### *Radiology training & fellowships*

2011-2014 Radiology specialist training programme (residency) selection interviewing board.

### TEACHING QUALIFICATION

##### Basic teaching qualification ('BKO')

2013 Individual supervision, Rotterdam/NL

2011 Teach the teacher module III, Rotterdam/NL

## PROMOTING NEUROIMAGING INNOVATIONS IN CLINICAL PRACTICE

The dissemination of knowledge and insight gained from my research is the crucial fourth pillar of my work. Clinical implementation of physiological MR neuroimaging proves challenging, and many techniques that have been available for decades remain only available for fundamental research.

I make a dedicated effort to break the boundaries between the research arena and clinical practice and vice versa. I hold key positions in multiple national and international professional and multidisciplinary societies and have an extensive network that I use to promote my research in clinical practice and establish collaborations. These efforts include:

- developing clinical guidelines and recommendations for - advanced - imaging techniques;
- implementing imaging standardisation in multicentre clinical trials;
- publishing book chapters and guest-editing special journal issues;
- raising public awareness of neuroimaging through (social) media and web sites;
- participating in international alliances dedicated to promote imaging techniques;
- presiding and promoting scientific meetings, the latter having resulted in my appointment as Knowledge Ambassador by the city of Rotterdam.

These activities represent many years' work on advancing clinicians' *and* public awareness of a new imaging techniques.

## LEADERSHIP POSITIONS

### Executive Council

2019-present European Society of Radiology (ESR):  
chair of Publications Committee

### Presidential tract

2017-present European Society for Magnetic  
Resonance in Medicine and Biology (ESMRMB)

### Chief of Neuroradiology

2019-present Erasmus MC department of Radiology &  
Nuclear Medicine

### Congress President

2015-2018 2018 ESNR annual meeting

### Chairman

2018-present EORTC Imaging Group

### Chairman

2018-present EORTC Brain Tumour Group Imaging  
subcommittee

### Chairman

2018-present Section of Neuroradiology of the  
Radiological Society of the Netherlands

### General Secretary of the Board

2012-2018 Section of Neuroradiology of the  
Radiological Society of the Netherlands

### Board member (Treasurer, Vice-Chair)

2013-2017 EORTC Imaging Group

### Course director

2012-2016 ESMRMB School of MRI: fMRI & DTI in clinical  
practice

### ESR-RSNA joint symposium committee

2012-2016 Joint symposium at annual meetings

### Scientific Programme Committee Chair

2013-2015 2015 ESMRMB Annual Meeting

### Executive Board member

2013-2015 ESMRMB

### Young Health Council of the Netherlands member

2011-2013 The Health Council of the Netherlands  
(Jonge Gezondheidsraad), The Hague/NL

### Course organiser

2012 ESMRMB fMRI & DTI hands-on course, Paris/FR

### Guest editor

2012 MemoRad Dutch Radiology Journal special issue:  
fMRI and DTI

### Scientific Programme Committee member

2013-2014 WFNRS Symposium Neuroradiologicum,  
Istanbul/TR 2014.

Scientific Programme Committee member

2011-2013 ESMRMB annual scientific meeting Lisbon/  
PT, Toulouse/FR

Scientific Programme & Organising Committee

2011-2013 Dutch Radiology Conference, of which  
chairman in 2012

Initiator and Chairman

2011-2012 Radiology Junior Clinical Researchers  
Group, Erasmus MC

Local course organiser

2009 ESMRMB fMRI & DTI hands-on course, Rotterdam/  
NL

Editor-in-chief

2008-2010 Radiology department's journal "De  
Beeldspraak", Erasmus MC

Chairman

2005 MRI user meetings, Erasmus MC

President

2002-2004 Junior Doctors' Association Erasmus MC

Chairman

2002, 2003 Organisation committee of the Junior  
Doctors' Research Day Erasmus MC

## EXTERNAL CONSULTANCY

2016-present Independent reviewer for Parexel Intl.

Trial review for EORTC-1410 (±€150,000)

2015-present Consultancy for Quantib B.V. (no personal  
financial compensation)

## INTERNATIONAL ALLIANCES

2017-present Quantitative Imaging Biomarker Alliance  
(QIBA) working group on arterial spin labelling

2016-2019 European Imaging Biomarker Alliance  
(EIBALL)

2014-present Brain Tumor Imaging Standardization  
Steering Committee in the National (USA) Brain Tumor  
Society

2015-present ISMRM MRI Value Initiative

2013-2016 European COST action for arterial spin  
labelling in dementia (BM1103)

## GUIDELINE & POLICY DEVELOPMENT

2017-present Dutch brain metastases guidelines

2015-present Dutch national registry for brain tumours

2012-present Quality criteria for neuro-oncological care  
in the Netherlands

2013, 2017-present Dutch glioma guidelines

2008 MR imaging protocol for EORTC brain tumour  
trials

## BOOK CHAPTERS

see page 13.

## GUIDELINES & RECOMMENDATIONS

Weller M, Van den Bent M, Preusser M, Le Rhun E, Tonn  
JC, Minniti G, Bendszus M, Balana C, Chinot O, Dirven  
L, French P, Hegi ME, Jakola AS, Platten M, Roth P, Rudà  
R, Short S, **Smits M**, Taphoorn MJB, Von Deimling A,  
Westphal M, Soffietti R, Reifenberger G, Wick W, for  
the EANO Task Force on Diffuse Gliomas. *European  
Association of Neuro-Oncology (EANO) guideline on the  
diagnosis and treatment of diffuse gliomas of  
adulthood*. Nat Rev Clin Oncol, in press.

Boxerman JL, Quarles CC, Hu LS, Erickson BJ, Gerstner  
E, **Smits M**, Kaufmann TJ, Barboriak D, Huang RH, Wick  
W, Weller M, Galanis E, Kalpathy-Cramer J, Shankar L,  
Jacobs P, Chung C, Van den Bent MJ, Chang S, Al Yung  
WK, Cloughesy TF, Wen PY, Gilbert MR, Rosen BR,  
Ellingson BM, Schmainda KM. *Consensus  
Recommendations for a Dynamic Susceptibility Contrast  
MRI Protocol for Use in High-Grade Gliomas*.  
NeuroOncol 2020;22:757-772.

Kaufmann TJ, **Smits M**, Boxerman J, Huang R,  
Barboriak DP, Weller M, Chung C, Tsien C, Brown OD,  
Shankar L, Galanis E, Gerstner E, Van den Bent MJ,  
Burns TC, Pamey IF, Dunn G, Brastianos PK, Lin NU,  
Wen PY, Ellingson BM. *Consensus recommendations for  
a standardized brain tumor imaging protocol for clinical  
trials in brain metastases (BTIP-BM)*. NeuroOncol 2020  
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Thust SC, Heiland S, Falini A, Jäger HR, Waldman AD,  
Sundgren PC, Godi C, Katsaros VK, Ramos A, Bargalló  
N, Vernooij MW, Yousry T, Bendszus M, **Smits M**. *Glioma  
imaging in Europe: A survey of 220 centres and  
recommendations for best clinical practice*. Eur Radiol  
2018;28:3306-3317.

Grade M, Hernandez Tamames JA, Pizzini FB, Achten E,  
Golay X, **Smits M**. *A Neuroradiologist's guide to Arterial  
Spin Labeling MRI in clinical practice*. Neuroradiology  
2015;57:1181-202.

Ellingson BM, Bendszus M, Boxerman JL, Barboriak D,  
Erickson BJ, **Smits M**, Nelson SJ, Gerstner E, Alexander  
B, Goldmacher G, Wick W, Vogelbaum M, Weller M,  
Galanis E, Kalpathy-Cramer J, Shankar L, Jacobs P,  
Pope WB, Yang D, Chung C, Knopp MV, Cha S, van den  
Bent MJ, Chang S, Yung WKA, Cloughesy TF, Wen PY,

Gilbert MR. *Consensus recommendations for a standardized brain tumor imaging protocol (BTIP) in clinical trials*. Neuro Oncol 2015;17:1188-98.

Alsop DC\*, Detre JA\*, Golay X\*, Günther M\*, Hendrikse J\*, Hernandez-Garcia L\*, Hanzhang L\*, Macintosh BL\*, Parkes LM\*, **Smits M\***, Van Osch MJP\*, Wang DJJ\*, Wong EC\*, Zaharchuk G\*. *Recommended Implementation of Arterial Spin Labeled Perfusion MRI for Clinical Applications: A consensus of the ISMRM Perfusion Study Group and the European Consortium for ASL in Dementia*. Magn Reson Med 2015;73:102-16.  
\*authors listed in alphabetical order.

## PUBLIC UNDERSTANDING OF RADIOLOGY

Advanced Neuroimaging in clinical practice  
24 Oct 2019 GE Live TV: <https://www.youtube.com/watch?v=7dG5EdTmusE&feature=youtu.be>

Radiology of brain tumours  
17 March 2018 Public meeting on brain tumours, Bunnik/NL

Imaging of brain tumours  
2 December 2017 KWF charity event, Stolwijk/NL

Imaging of brain tumours  
25 January 2015 Public meeting on brain tumours, Maarssen/NL

Web site explaining brain tumour imaging  
2013-present [www.hersentumor.nl](http://www.hersentumor.nl)

Advanced MRI of dementia  
10 June 2013 National television: [Over leven met... dementie] 'On living with... dementia' (NTR)

RSNA on the Air: fMRI in brain tumour patients  
2 December 2009 Radio interview broadcast by "Rural Health Today"/US with audience of ~983,000

Functional MRI for the assessment of marketing skills of sales people  
12 November 2006 National television: Business Class (RTL7)

Basics of MRI as part of the exhibition "Pain and Pleasure"  
2005-2006 Museum of Natural History, Rotterdam/NL

## MEMBERSHIP OF PROFESSIONAL SOCIETIES

2020-present European Association of Neuro-Oncology (EANO)

2012-present International Society for Magnetic Resonance in Medicine (ISMRM)

2012-present Head and Neck Radiology section of the Radiological Society of the Netherlands

2011-present European Low Grade Glioma Network

2010-present EORTC, Brain Tumour and Imaging groups

2010-present Dutch Society for Neuro Oncology (LWNO)

2010-present European Society of Neuroradiology (ESNR)

2008-present European Society of Magnetic Resonance in Medicine and Biology (ESMRMB)

2007-present European Society of Radiology (ESR)

2006-present Neuroradiology section of the Radiological Society of the Netherlands

2000-present Radiological Society of North America (RSNA)

2000-present Radiological Society of the Netherlands (NVvR)

2012-2015 European Institute for Biomedical Imaging Research (EIBIR) Cancer Imaging working group [upon invitation]

2000-2008 Erasmus MC Junior Doctor's Association (president 2002-2004)

## MISCELLANEOUS

2009, 2011 Judge for the BBC public speaking competition.

## PUBLICATIONS

### book chapters

1. Ellingson BM, **Smits M**. *The Path Forward: The Standardized Brain Tumor Imaging Protocol (BTIP) for Multicenter Trials*. In: Glioma Imaging. Physiologic, Metabolic, and Molecular Approaches. Pope WP (ed). Springer Nature Switzerland, 2020. ISBN 978-3-030-27358-3.
2. Gahrman R, Arbizu J, Laprie A, Morales M, **Smits M**. *Response evaluation and follow-up by imaging in brain tumours*. In: *Imaging and Interventional Radiology for Radiation Oncology*. Beets-Tan RG, Oyen WJG, Valentini V (Eds). Springer Nature Switzerland, 2020. ISBN 978-3-030-38260-5.
3. Garcia GCTE, Bockel S, Majer M, Ammari S, **Smits M**. *Imaging of brain metastases: diagnosis and monitoring*. In: Central Nervous System Metastases. Ahluwalia M, Metellus P, Soffietti R (eds). Springer International Publishing, 2020. ISBN 978-3-030-23417-1.
4. **Smits M**. *CNS involvement in non-CNS tumours*. In: Clinical Neuroradiology. Barkhof F, Jäger R, Thurnher M (eds). Springer, doi:10.1007/978-3-319-61423-6\_61-1.
5. Nederveen AJ, Caan MWA, **Smits M**. *General Principles of Magnetic Resonance Imaging*. In: Imaging in neurodegenerative disorders. Saba L (ed). Oxford University Press, Oxford 2015. ISBN 978-0-19-967161-8.
6. Pizzini F, **Smits M**, Wesolowski R, Chapell M, Jäger R, Mutsaerts HJ, Hernandez-Tamames J. *Arterial Spin Labeled MRI perfusion imaging techniques*. In: Perfusion Imaging in Clinical Practice: A multimodality diagnostic approach to tissue perfusion analysis. Saremi F (ed). Wolters Kluwer, Philadelphia 2015. ISBN 978-1-4511-9316-9.
7. Méndez Orellana CE, Visch EG, **Smits M**. *Functional imaging of language processing: basic principles and acquired insights*. Published in Dutch in: Het (voor)beeldig brein. Robert E, Visch-Brink E, Beeckman A (eds). Antwerp-Apeldoorn Garant publishers 2013. ISBN 978-90-441-3026-3.

### PhD thesis

**Smits M**. *Imaging in Minor Head Injury. Early Complications and Late Consequences*. 2008. ISBN 978-90-9022918-8.

### peer-reviewed articles

|  | Impact Factor (2019) |
|--|----------------------|
|  | <b>Q1 in bold</b>    |
| Mean IF Marion Smits   | 6.7                  |
| H-index Marion Smits (Web of Science; ResearcherID: E-4795-2011)   | 34                   |
| Average citations per item   | 34.8                 |
| Median IF subject category “neuroimaging”  | 2.5                  |
| Median IF subject category “radiology, nuclear medicine & medical imaging”   | 2.3                  |
| 2021   |                      |
| 1 Warnert EA, Wood TC, Incekara F, Barker GJ, Vincent AJPE, Schouten JW, Kros JM, Van den Bent MJ, Smits M, Hernandez Tamames JA. Mapping tumour heterogeneity with pulsed 3D CEST MRI in non-enhancing glioma at 3 Tesla. MAGMA, in press.  | 2.0                  |
| 2020   |                      |
| 2 Kaufmann TJ, <b>Smits M</b> , Boxerman J, Huang R, Baboriak DP, Weller M, Chung C, Tsien C, Brown OD, Shankar L, Galanis E, Gerstner E, Van den Bent MJ, Burns TC, Pamey IF, Dunn G, Brastianos PK, Lin NU, Wen PY, Ellingson BM. <i>Consensus recommendations for a standardized brain tumor imaging protocol for clinical trials in brain metastases (BTIP-BM)</i> . NeuroOncol 2020;22:757-772. | <b>10.3</b>          |
| 3 Incekara F, <b>Smits M</b> , Van der Voort S, Dubbink HJ, Atmodimedjo P, Kros JM, Vincent AJPE, Van den Bent MJ. <i>The association between extent of glioblastoma resection and survival in light of MGMT promoter methylation in 326 patients with newly diagnosed IDH-wildtype glioblastoma</i> . Front Oncol 2020;10:1087. doi: 10.3389/fonc.2020.01087. eCollection 2020.                     | 4.8                  |

- 4 Weller M, Van den Bent M, Preusser M, Le Rhun E, Tonn JC, Minniti G, Bendszus M, Balana C, Chinot O, Dirven L, French P, Hegi ME, Jakola AS, Platten M, Roth P, Rudà R, Short S, **Smits M**, Taphoorn MJB, Von Deimling A, Westphal M, Soffietti R, Reifenberger G, Wick W, for the EANO Task Force on Diffuse Gliomas. *European Association of Neuro-Oncology (EANO) guideline on the diagnosis and treatment of diffuse gliomas of adulthood*. Nat Rev Clin Oncol, in press. **53.3**
- 5 Deroose CM, Lecouvet FE, Collette L, Oprea-Lager DE, Kunz WG, Bidaut L, Verhoeff JJC, Caramella C, Lopci E, Tombal B, de Geus-Oei LF, Fournier L, **Smits M**, deSouza NM. *Impact of the COVID-19 crisis on imaging in oncological trials*. Eur J Nucl Med Mol Imaging 2020;47:2054-2058. **7.1**
- 6 Boxerman JL, Quarles CC, Hu LS, Erickson BJ, Gerstner E, **Smits M**, Kaufmann TJ, Barboriak D, Huang RH, Wick W, Weller M, Galanis E, Kalpathy-Cramer J, Shankar L, Jacobs P, Chung C, Van den Bent MJ, Chang S, Al Yung WK, Cloughesy TF, Wen PY, Gilbert MR, Rosen BR, Ellingson BM, Schmainda KM. *Consensus Recommendations for a Dynamic Susceptibility Contrast MRI Protocol for Use in High-Grade Gliomas*. NeuroOncol 2020;22:1262-1275. **10.3**
- 7 Tesileanu CMS, Dirven L, Wijnenga MMJ, Koekkoek JAF, Vincent AJPE, Dubbink HJ, Atmodimedjo PN, Kros JM, Van Duinen SG, **Smits M**, Taphoorn MJP, French PJ, Van den Bent MJ. *Survival of IDH wildtype astrocytomas with molecular features of glioblastoma: a confirmation of the cIMPACT-NOW criteria*. Neuro Oncol 2020;22:525-523. **10.3**
- 8 Van den Bent M, Eoli M, Sepulveda JM, **Smits M**, Walenkamp A, Frenel JS, Franceschi E, Clement PM, Chinot O, de Vos F, Whenham N, Sanghera P, Weller M, Dubbink HJ, French P, Looman J, Dey J, Krause S, Ansell P, Nuyens S, Spruyt M, Brilhante J, Coens C, Gorlia T, Golfopoulos V. *INTELLANCE 2/ EORTC 1410 randomized phase II study of Depatux-M alone and with temozolomide vs temozolomide or lomustine in recurrent EGFRamplified glioblastoma*. NeuroOncol 2020;22:684-693. **10.3**
- 9 Jain R, Johnson DR, Patel SH, Castillo M, **Smits M**, Van den Bent MJ, Chi AS, Cahill DP. *'Real world' use of a highly reliable imaging sign: 'T2-FLAIR mismatch' for identification of IDH mutant astrocytomas*. NeuroOncol 2020;22:936-943. **10.3**
- 10 Incekara F, Van der Voort S, Dubbink HJ, Atmodimedjo P, Nandoe Tewarie R, Lycklama G, Vincent AJPE, Kros JM, Klein S, Van den Bent MJ, **Smits M**. *Topographical mapping of 436 newly diagnosed IDH wildtype glioblastoma with vs. without MGMT promotor methylation*. Front Oncol 2020;10:596. doi: 10.3389/fonc.2020.00596. eCollection 2020. 4.8
- 11 Li B, De Groot M, Steketee RME, Meijboom R, **Smits M**, Vernooij MW, Ikram MA, Liu J, Niessen WJ, Bron EE. *Neuro4Neuro: A neural network approach for neural tract segmentation using large-scale population-based diffusion imaging*. NeuroImage 2020;218:116993. doi: 10.1016/j.neuroimage.2020.116993. Epub 2020 May 31. **5.9**
- 12 Soloukey S, Vincent AJPE, Satoer DD, Mastik F, **Smits M**, Dirven CMF, Strydis C, Bosch JG, Van der Steen AFW, De Zeeuw CI, Koekkoek SKE, Kruizinga P. *Functional Ultrasound (fUS) During Awake Brain Surgery: The Clinical Potential of Intra-operative Functional and Vascular Brain Mapping*. Front Neurosci 2020;13:1384. 3.7
- 13 Bakas S, Poisson LM, Ormond DR, Alfaro KD, **Smits M**, Cooper L, Verhaak R. *Imaging integration into the Glioma Longitudinal Analysis Consortium (iGLASS)*. NeuroOncol 2020;noaa160. doi: 10.1093/neuonc/noaa160. Online ahead of print. **10.3**
- 14 Blom-Smink M, Verly M, Spielmann K, **Smits M**, Ribbers G, Van de Sandt M. *Change in Right Inferior Longitudinal Fasciculus Integrity Is Associated With Naming Recovery in Subacute Post-Stroke Aphasia*. Neurorehabil Neural Repair 2020;34:784-794. **4.0**
- 15 Bargalló N, Cano-López I, Rosazza C, Vernooij MW, **Smits M**, Vitali P, Alvarez-Linera J, Urbach H, Mancini L, Ramos A, Yousry T. *Clinical practice of language fMRI in epilepsy centers: a European survey and conclusions by the ESNR Epilepsy Working Group*. Neuroradiology 2020;62:549-62. 2.2
- 16 Clement P, Booth T, Borovečki F, Emblem KE, Figueiredo P, Hirschler L, Jančálek R, Keil VC, Maumet C, Özsunar Y, Pernet C, Petr J, Pinto J, **Smits M**, Warnert EAH. *GliMR: Cross-border collaborations to promote advanced MRI biomarkers for glioma*. J Med Biol Eng 2020; [doi.org/10.1007/s40846-020-00582-z](https://doi.org/10.1007/s40846-020-00582-z). Online ahead of print. 1.2

- 17 Van der Voort SR, **Smits M**, Klein S. *DeepDicomSort: An automatic sorting algorithm for brain magnetic resonance imaging data*. Neuroinformatics 2020; doi: 10.1007/s12021-020-09475-7. Online ahead of print. 3.3
- 2019
- 18 Barthel FP, Johnson KC, Varn FS, Moskalik AD, Tanner G, Kocakavuk E, Anderson KJ, Abiola O, Aldape K, Alfaro KD, Alpar D, Amin SB, Ashley DM, Bandopadhyay P, Barnholtz-Sloan JS, Beroukheim R, Bock C, Brastianos PK, Brat DJ, Brodbelt AR, Bruns AF, Bulsara KR, Chakrabarty A, Chakravarti A, Chuang JH, Claus EB, Cochran EJ, Connelly J, Costello JF, Finocchiaro G, Fletcher MN, French PJ, Gan HK, Gilbert MR, Gould PV, Grimmer MR, Iavarone A, Ismail A, Jenkinson MD, Khasraw M, Kim H, Kouwenhoven MCM, LaViolette PS, Li M, Lichter P, Ligon KL, Lowman AK, Malta TM, Mazor T, McDonald KL, Molinaro AM, Nam DH, Nayyar N, Ng HK, Ngan CY, Niclou SP, Niers JM, Noushmehr H, Noorbakhsh J, Ormond DR, Park CK, Poisson LM, Rabadan P, Radlwimmer B, Rao G, Reifemberger G, Sa JK, Schuster M, Shaw BL, Short SC, Sillevs Smitt PA, Sloan AE, **Smits M**, Suzuki H, Tabatabai G, Van Meir EG, Watts C, Weller M, Wesseling P, Westerman BA, Widhalm G, Woehrer A, Yung WKA, Zadeh G, Huse JT, De Groot JF, Stead LF, Verhaak RGW & The GLASS Consortium. *Longitudinal molecular trajectories of diffuse glioma in adults*. Nature 2019;576:112-120. 42.8
- 19 Van der Voort SR, Incekara F, Wijnenga MMJ, Kapsas G, Gardeniers M, Schouten JW, Starmans MPA, Nandoe Tewarie R, Lycklama GJ, French PJ, Dubbink HJ, Van den Bent MJ, Vincent AJPE, Niessen WJ, Klein S, **Smits M**. *Predicting the 1p/19q codeletion status of presumed low grade glioma with an externally validated machine learning algorithm*. Clin Cancer Res 2019;25:7455-7462. 10.1
- 20 **Smits M**, Bendszus M, Collette S, Postma LA, Dhermain F, Hagenbeek RE, Clement PM, Liu Y, Wick W, Van den Bent MJ, Heiland S. *Repeatability and reproducibility of relative cerebral blood volume measurement of recurrent glioma in a multicenter trial setting*. Eur J Cancer 2019;114:89-96. 7.3
- 21 Meijboom R, Steketee RME, Ham LS, Mantini D, Bron EE, Van der Lugt A, Van Swieten JC, **Smits M**. *Exploring quantitative group-wise differentiation of Alzheimer's disease and behavioural variant frontotemporal dementia using tract-specific microstructural white matter and functional connectivity measures at multiple time points*. Eur Radiol 2019;29:5149-5159. 4.1
- 22 Le Rhun E, Devos P, Boulanger T, **Smits M**, Brandsma D, Rudà R, Furtner J, Hempel J-M, Postma TJ, Roth P, Snijders TJ, Winkler F, Winklehofer S, Castellano A, Hattingen E, Capellades J, Gorlia T, Van den Bent M, Wen PY, Bendszus M, Weller M. *The RANO Leptomeningeal Metastasis Group proposal to assess response to treatment: lack of feasibility and clinical utility, and a revised proposal*. NeuroOncol 2019;21:648-658. 10.3
- 23 Wijnenga MMJ, Van der Voort SR, French PJ, Klein S, Dubbink HJ, Dinjens WNM, Atmodimedjo PN, De Groot M, Kros JM, Dirven CMF, Vincent AJPE, **Smits M**, Van den Bent MJ. *Differences in spatial distribution between WHO 2016 low-grade glioma molecular subgroups*. Neuro-Oncology Advances, in press.
- 24 Visser M, Müller D, Van Duijn RJM, **Smits M**, Verburg N, Hendriks E, Nabuurs R, Bot J, Eijgelaar R, Witte M, Van Herk MB, Barkhof F, De Witt Hamer P, De Munck JC. *Inter-rater agreement in glioma segmentations on longitudinal MRI*. NeuroImage Clin 2019;22:101727. doi: 10.1016/j.nicl.2019.101727. Epub 2019 Feb 22. 4.4
- 25 Incekara F, Koene S, Vincent AJPE, **Smits M**. *Association between supratotal glioblastoma resection and patient survival: a systematic review and meta-analysis*. World Neurosurg 2019;617-624. 1.8
- 26 D'Anna G, Pyatigorskaya N, Appelman A, Van Goethem J, **Smits M**. *Exploring new landmarks: analysis of Twitter usage during the 41st ESNR Annual Meeting*. Neuroradiology 2019;61:621-626. 2.2
- 27 Schiller R, van Heijst A, Tibboel D, Verhulst F, IJsselstijn H, van Rosmalen J, **Smits M**, Madderom M, White T. *Training-induced white matter microstructure changes in survivors of neonatal critical illness: A randomized controlled trial*. Dev Cogn Neuros 2019;38:110678. 5.0

- 28 deSouza NM, Achten E, Alberich-Bayarri A, Bamberg F, Boellaard R, Clement O, Fournier L, Gallagher F, Golay X, Heussel CP, Jackson EF, Manniesing R, Mayerhofer ME, Neri E, O'Connor J, Oguz KK, Persson A, **Smits M**, van Beek EJR, Zech CJ and European Society of Radiology. *Validated imaging biomarkers as decision-making tools in clinical trials and routine practice: current status and recommendations from the EIBALL\* subcommittee of the European Society of Radiology (ESR)*. Insights Imaging. 2019;10:87. **3.6**
  - 29 Incekara F, Satoer D, Visch-Brink EG, Vincent AJPE, **Smits M**. *Changes in language white matter tract microarchitecture are associated with cognitive deficits in patients with presumed low grade glioma*. J Neurosurg 2019;1-9. **4.0**
  - 30 Meijboom R, Steketee RME, Jiskoot LC, Bron EE, van der Lugt A, van Swieten JC, **Smits M**. *Qualitative Assessment of Longitudinal Changes in Phenocopy Frontotemporal Dementia*. Front Neurol 2019;10:1207. 2.9
  - 31 Van Beek EJR, Kuhl C, Gong Q, Hall-Craggs M, Desmond P, Gold G, Gulani V, Reeder S, **Smits M**, Sodickson D, Tempany C, Wang M. *The value of MRI in Medicine – more than just another test?* J Magn Reson Imaging 2019;49:e14-e25. **4.0**
  - 32 Van Dijken BRJ, Van Laar PJ, **Smits M**, Dankbaar WJ, Enting RH, Van der Hoorn A. *Perfusion MRI in treatment evaluation of glioblastomas, clinical relevance of current and future techniques*. J Magn Reson Imaging 2019;49:11-22 (invited review) **4.0**
  - 33 Vernooij MW, Pizzini FB, Schmidt R, **Smits M**, Yousry TA, Bargallo N, Frisoni GB, Haller S, Barkhof F. *Dementia Imaging in Clinical Practice: A European-wide Survey of 193 Centers and Conclusions by the ESNR Working Group*. Neuroradiology 2019;61:663-642. 2.2
- 2018
- 34 Thust SC, Heiland S, Falini A, Jäger HR, Waldman AD, Sundgren PC, Godi C, Katsaros VK, Ramos A, Bargalló N, Vernooij MW, Yousry T, Bendszus M, **Smits M**. *Glioma imaging in Europe: A survey of 220 centres and recommendations for best clinical practice*. Eur Radiol 2018;28:3306-3317. **4.1**
  - 35 Thust SC, Van den Bent MJ, **Smits M**. *Pseudoprogression of Brain Tumors*. J Magn Reson Imaging 2018 ;48:571-89. (invited paper) **4.0**
  - 36 Van den Bent MJ, Klein M, **Smits M**, Reijneveld JC, French PJ, Clement P, De Vos FYF, Wick A, Mulholland PJ, Taphoorn MJB, Lewis J, Weller M, Chinot OL, Kros JM, De Heer I, Verschuere T, Coens C, Golfopoulos V, Gorlia Th, Idhah A. *Bevacizumab and temozolomide in patients with first recurrence of WHO grade II and III glioma, without 1p/19q co-deletion (TAVAREC): a randomised controlled phase 2 EORTC trial*. Lancet Oncol 2018;19:1170-1179. **33.8**
  - 37 Incekara F, **Smits M**, Dirven CM, Vincent AJPE. *Clinical feasibility of a wearable mixed reality device in neurosurgery*. World Neurosurg 2018;118:e422-e427. 1.8
  - 38 Bouwen BLJ, Pieterman KJ, **Smits M**, Dirven CMF, Gao Z, Vincent AJPE. *The impacts of tumor and tumor associated epilepsy on subcortical brain structures and long distance connectivity in patients with low grade glioma*. Front Neurol 2018;9:1004. doi: 10.3389/fneur.2018.01004. eCollection 2018. 2.9
  - 39 Tap L, van Opbroek A, Niessen WJ, **Smits M**, Mattace-Raso FUS. *Aortic stiffness and brain integrity in elderly patients with cognitive and functional complaints*. Clin Interv Aging 2018;13:2161-2167. 3.0
  - 40 Petr J, Mutsaerts HJMM, De Vita E, Steketee RME, **Smits M**, Nederveen AJ, Hofheinz F, Van den Hoff J, Asllani I. *Effects of systematic partial volume errors on the estimation of gray matter cerebral blood flow with Arterial Spin Labeling MRI*. MAGMA 2018;31:725-734. 2.0
  - 41 Broen MPG, **Smits M**, Wijnenga MMJ, Dubbink HJ, Anten M, Schijns OEMG, Beckervordersandforth J, Postma AA, Van den Bent MJ. *The T2-FLAIR mismatch sign as an imaging marker for non-enhancing IDH-mutant, 1p/19q-intact lower grade glioma: A validation study*. NeuroOncol 2018;20:1393-1399. **10.3**
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129. Kovacs S, Peeters R, **Smits M**, De Ridder D, Van Hecke P, Sunaert S. *Activation of cortical and subcortical auditory structures at 3T by means of an fMRI paradigm suitable for clinical use*. Abstract book International Tinnitus Seminar 2005:41.
130. Schraa-Tam CKL, Van der Lugt A, Frens MA, Van Broekhoven FCA, **Smits M**, Van der Geest JN. *Brain areas activated by bilateral caloric vestibular stimulation with visual stimuli: An fMRI study*. Electronic supplement Neurolmage 2005;26:1421.
131. **Smits M**, Kovacs S, De Ridder D, Peeters R, Van Hecke P, Sunaert S. *Lateralisatie van functionele MRI-signaalverandering in het centrale auditieve systeem bij patiënten met gelateraliseerde tinnitus*. Ned Tijdschr Geneesk 2004;148:2570-2571.
132. **Smits M**, Kovacs S, De Ridder D, Peeters R, Van Hecke P, Sunaert S. *Lateralization of signal change in the auditory pathway in patients with lateralized tinnitus studied with functional Magnetic Resonance Imaging (fMRI)*. Radiological Society of North America scientific assembly and annual meeting program, Oak Brook, Ill. Radiological Society of North America 2004:281.
133. **Smits M**, Dippel DWJ, De Haan GG, Tanghe HLJ, Hunink MGM. *Indications for computed tomography (CT) in patients with minor head injury: validation of published decision rules and individual risk factors*. Radiological Society of North America scientific assembly and annual meeting program, Oak Brook, IL. Radiological Society of North America 2004:161.
134. Schraa-Tam CK, **Smits M**, Van der Lugt A, Van der Geest JN. *Functional Magnetic Resonance Imaging (fMRI) of vestibular and visual interactions in caloric vestibular stimulation*. Radiological Society of North America scientific assembly and annual meeting program, Oak Brook, IL. Radiological Society of North America 2004:241.
135. **Smits M**, Dippel DWJ, De Haan GG, Tanghe HLJ, Hunink MGM. *Indications for computed tomography (CT) in patients with minor head injury: validation of published decision rules and individual risk factors*. Supplement MemoRad 2004;9:30-31.
136. **Smits M**, Kovacs S, De Ridder D, Peeters R, Van Hecke P, Sunaert S. *Lateralization of signal change in the auditory pathway in patients with lateralized tinnitus studied with functional Magnetic Resonance Imaging (fMRI)*. Supplement MemoRad 2004;9:28.
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138. Schraa-Tam CK, Van der Lugt A, Frens MA, **Smits M**, Van Broekhoven PC, Van der Geest JN. *fMRI of visual and vestibular interaction*. MAGMA 2004;16:S183-184.
139. **Smits M**, Peeters RR, Van Hecke P, Sunaert S. *A 3T event-related functional Magnetic Resonance Imaging (fMRI) study of natural taste perception*. Proc Intl Soc Mag Reson Med 2004;11:1051.

140. Tam C, Van der Geest JN, **Smits M**, Van der Lugt A. *Rest conditions in fMRI: exploring the differences*. Proc Intl Soc Mag Reson Med 2004;11:2542.
141. Peeters RR, Sunaert S, **Smits M**, Van Hecke P. *Optimization of 3D EPI SENSE techniques for fMRI of highly inhomogeneous areas*. Proc Intl Soc Mag Reson Med 2004;11:1028.
142. **Smits M**, Dippel DWJ, De Haan GG, Tanghe, HLJ, Hunink MGM. *Indications for Computed Tomography (CT) in patients with minor head injury: generalization of a published decision rule*. Radiological Society of North America scientific assembly and annual meeting program, Oak Brook, IL. Radiological Society of North America 2003:182.
143. **Smits M**, Dippel DWJ, De Haan GG, Tanghe, HLJ, Hunink MGM. *Indications for Computed Tomography (CT) in patients with minor head injury: generalization of a published decision rule*. Supplement MemoRad 2003;8:29-30.
144. **Smits M**, Wilmsink JT, Vles JSH. *Synostotic and positional plagiocephaly: two types of skull deformity studied with 3D Computed Tomography (CT)*. Supplement MemoRad 1998;3:39-40.



## PRESENTATIONS

### *invited lectures*

#### *Clinical assessment of treatment response*

2 Nov 2021 IPR 2021, online

#### *Pitfalls in diagnosis Pseudoprogression/pseudoresponse: MRI , PET or both?*

23 Sep 2021 EANO 2021, Rotterdam/online

#### *Focus on biomarkers in common diseases*

19 June 2021 EAN 2021, online

#### *Money, money, money*

May 2021 ISMRM 2021, online

#### *Radiomics in glioma grading*

April 2021 Hot Topics Brain Tumors, online

#### *Consensus recommendations standardized imaging protocol and structured report*

April 2021 Hot Topics Brain Tumors, online

#### *Launching a biomarker successfully into clinical practice*

7 March 2021 ECR 2021, online

#### *How do I share my trial data*

5 March 2021 ECR 2021, online

#### *Neuroradiology education: Tumours*

on demand 2021 ECR 2021, online

#### *Radiological imaging*

9 Feb 2021 Cancer Drug Development Forum, online

#### *Roles of Imaging in Refining Prognosis and Directing Management in Molecularly-defined Brain Tumors*

29 Nov-5 Dec 2020 RSNA annual meeting, online

#### *Low grade glioma: new things you need to know*

23 Sep 2020 ECR2020 Highlight week, online

#### *Pre- and postoperative assessment of glioblastoma*

12 Aug 2020 ESNR webinar

#### *Imaging in Neuro-oncology: challenges and opportunities*

10 Oct 2019 Annual meeting of the British Society of Neuroradiologists, Cardiff/UK

#### *Imaging genomics of adult glioma*

20 Sep 2019 Annual meeting of the European Society of Neuroradiology, Oslo/NO

#### *ASL for neuro-oncology*

18 Sep 2019 Annual meeting of the European Society of Neuroradiology, Oslo/NO

#### *Keynote lecture: Imaging in Neuro-oncology: challenges and opportunities*

4 July 2019 British Neuro-Oncology Society annual meeting, London/UK

#### *Clinical application of ASL in the brain*

20 May 2019 ISMRM annual meeting, Montréal/CA

#### *Glioblastoma*

29 April 2019 European Course of Neuroradiology, Antwerp/BE

7 May 2017 European Course of Neuroradiology, Antwerp/BE

#### *Imaging patterns suggestive of different (molecular) subtypes of low-grade gliomas*

3 March 2019 European Congress of Radiology, Vienna/AT

4 March 2018 European Congress of Radiology, Vienna/AT

*Establishing the scientific and clinical value of advanced imaging*

28 February 2019 European Congress of Radiology, Vienna/AT

*Imaging phenotypes of adult glioma genotypes*

25 January 2019 ESNR Advanced Course in Diagnostic Neuroradiology – Glioma Imaging, Milan/IT

*Imaging in glioma: clinical practice from 220 centres throughout Europe*

25 January 2019 ESNR Advanced Course in Diagnostic Neuroradiology – Glioma Imaging, Milan/IT

10 November 2017 ESNR Advanced Course in Diagnostic Neuroradiology – Glioma Imaging, Milan/IT

*Imaging in Neuro-Oncology: challenges and opportunities*

15 November 2018 20th annual Henry M. Selby, MD, FACR Young Investigators Lecture, Memorial Sloan Kettering Cancer Center, New York, NY/US

*Physiological imaging of the vasculature: Non-contrast imaging*

19 October 2018 ESMRMB Hands-on course: 3T MRI, Rotterdam/NL

*CNS Metastasis: from basic science to clinical trials*

13 October 2018 13th EANO Meeting and Educational Day, Stockholm/SE

*Neuroradiology of brain tumours*

3 October 2018 EURO-CNS course on neuropathology, Amsterdam/NL

12 October 2016 EURO-CNS course on neuropathology, Amsterdam/NL

8 June 2015 EURO-CNS course on neuropathology, Odense/DK

19 September 2012 EURO-CNS course on neuropathology, Zagreb/HR

*Clinical applications of ASL perfusion imaging*

25 June 2018 10th annual scientific SINAPSE meeting, Edinburgh/UK

*Is ASL ready to replace contrast-agent perfusion methods in the clinic? - Yes: it is ready.*

18 June 2018 joint ESMRMB-ISMRM annual meeting, Paris/FR

*Physiological MR imaging of brain diseases*

23 May 2018 GE Neuroscience Summit, London/UK

*Arterial spin labeling (ASL) MRI of the brain: technical considerations and clinical implementation*

21 May 2018 Academy of Radiology, Dubrovnic/HR

*fMRI and DTI in clinical practice*

21 May 2018 Academy of Radiology, Dubrovnic/HR

*Non-enhancing brain tumors*

3 March 2018 European Congress of Radiology, Vienna/AT

*Imaging of brain metastases patients*

7 October 2017 7th annual brain metastases research and emerging therapy conference, Marseille/FR

*Standardized Brain tumor protocols*

15 September 2017 40th annual meeting of the ESNR, Malmö/SE

*Functional imaging - ASL in dementia*

14 September 2017 40th annual meeting of the ESNR, Malmö/SE

*Imaging of brain tumours - updated*

20 & 22 June 2017 Sandwich Course of Radiology, Ede/NL

*fMRI and DTI of the auditory and language systems*

16 June 2017 ESMRMB School of MRI – fMRI&DTI in clinical practice, Porto/PT

17 June 2016 ESMRMB School of MRI – fMRI&DTI in clinical practice, Barcelona/ES

27 June 2014 ESMRMB School of MRI – fMRI&DTI in clinical practice, London/UK

31 May 2013 ESMRMB School of MRI – fMRI&DTI in clinical practice, Rotterdam/NL

25 May 2012 ESMRMB School of MRI – Clinical fMRI&DTI, Uppsala/SE

25 March 2011 ESMRMB School of MRI – Clinical fMRI&DTI, Leuven/BE

25 May 2010 ESMRMB School of MRI – Clinical fMRI&DTI, Milan/IT

16 October 2009 ESMRMB School of MRI – Clinical fMRI&DTI, Thessaloniki/GR

*Advanced MR diagnostics in clinical neurooncology*

18 May 2017 Nordic Society of Neuroradiology Meeting, Copenhagen/DK

*Advanced imaging neuro-oncology*

17 May 2017 Subspecialty Radiology training ('differentiatenonderwijs'), Utrecht/NL

*Glioblastoma*

7 May 2017 European Course of Neuroradiology, Antwerp/BE

*Quantitative MR imaging markers in dementia*

26 April 2017 55th annual meeting of the American Society of Neuroradiology, GE Breakfast Symposium, Long Beach, CA/US

*Imaging biomarker for clinical trials in brain tumours*

2 March 2017 European Congress of Radiology, Vienna/AT

*Advanced MRI techniques*

1 March 2017 European Congress of Radiology, Vienna/AT

*Brain Trauma*

1 March 2017 European Congress of Radiology, Vienna/AT

4 March 2016 European Congress of Radiology, Vienna/AT

*ASL: technical considerations, brain tumour, cerebrovascular disease*

1 October 2016 ESMRMB annual meeting teaching session, Vienna/AT

*ASL in Alzheimer's disease*

17 September 2016 39th annual meeting of the European Society of Neuroradiology, Belgrade/RS

*Challenges and opportunities in Neuro MR*

18 July 2016 Gordon Research Conference: In vivo MR, Andover, NH/US

*Non-traumatic CNS emergencies*

2 March 2016 European Congress of Radiology, Vienna/AT

2 December 2015 100th annual meeting of the Radiological Society of North America, Chicago, IL/US

5 March 2015 European Congress of Radiology, Vienna/AT

3 December 2014 100th annual meeting of the Radiological Society of North America, Chicago, IL/US

7 March 2014 European Congress of Radiology, Vienna/AT

4 December 2013 99th annual meeting of the Radiological Society of North America, Chicago, IL/US

*CNS emergencies: Interactive case discussion*

2 March 2016 European Congress of Radiology, Vienna/AT

2 December 2015 100th annual meeting of the Radiological Society of North America, Chicago, IL/US

5 March 2015 European Congress of Radiology, Vienna/AT

3 December 2014 100th annual meeting of the Radiological Society of North America, Chicago, IL/US

7 March 2014 European Congress of Radiology, Vienna/AT

4 December 2013 99th annual meeting of the Radiological Society of North America, Chicago, IL/US

*Molecular Imaging and phenotypes of brain tumors*

18 September 2015 38th annual meeting of the European Society of Neuroradiology, Naples/IT

*Advanced multimodal imaging for brain tumors*

17 September 2015 38th annual meeting of the European Society of Neuroradiology, Naples/IT

*Imaging of metabolism and blood flow in dementia (MRI/PET)*

18 May 2015 British Institute of Radiology, London/UK

*fMRI and DTI of brain tumours*

8 April 2015 European Course of Neuroradiology, Rhodes/GR

*Brain tumours: type, grade and genetics*

8 April 2015 European Course of Neuroradiology, Rhodes/GR

*Standardisation of imaging in neuro-oncology*

27 March 2015 EORTC-EANO-ESMO, Istanbul/TR

*Optimised imaging for trials in brain tumours*

7 March 2015 European Congress of Radiology, Vienna/AT

*Imaging correlates of brain tumour genotypes*

5 March 2015 European Congress of Radiology, Vienna/AT

*Advanced MR neuroimaging techniques*

4 March 2015 European Congress of Radiology, Vienna/AT

6 March 2014 European Congress of Radiology, Vienna/AT

*Functional neuroanatomy: motor system, sensory system, cognition*

10 November 2014 European Course of Neuroradiology, Antalya/TR

*MR perfusion imaging*

25 October 2014 XLIII Annual meeting of the Spanish Society of Neuroradiology, Seville/ES

*DTI in clinical practice*

25 October 2014 XLIII Annual meeting of the Spanish Society of Neuroradiology, Seville/ES

*fMRI in clinical practice*

25 October 2014 XLIII Annual meeting of the Spanish Society of Neuroradiology, Seville/ES

*fMRI: BOLD and beyond*

11 September 2014 XXth Symposium Neuroradiologicum, Istanbul/TR

*Multimodal imaging*

11 September 2014 XXth Symposium Neuroradiologicum, Istanbul/TR

*Neuroanatomy of behavior and higher functions*

19 April 2016 European Course of Neuroradiology, Rhodes/GR

6 April 2014 European Course of Neuroradiology, Athens/GR

*Coma, vegetative persistent state, brain death*

19 April 2016 European Course of Neuroradiology, Rhodes/GR

6 April 2014 European Course of Neuroradiology, Athens/GR

*The use of Arterial Spin Labeling in non-vascular brain disease*

6 March 2014 European Congress of Radiology, Vienna/AT

*Advanced MR imaging of brain tumours*

25 January 2014 Patient information day, Maarssen/NL

*fMRI as a clinical and research tool*

31 October 2013 Annual Congress of the NL Society of Physical and Rehabilitation Medicine, Noordwijk/NL

*Diffusion tensor imaging in clinical practice*

19 October 2013 ESMRMB School of MRI – Advanced Neuro Imaging, Split/HR

25 October 2012 ESMRMB School of MRI – Advanced Neuro Imaging, Antwerp/BE

*Review of existing studies on ASL in dementia*

1 October 2013 COST ASL Training School for physicists, Toulouse/FR

*Assessing brain scans from the memory clinic*

19-20 June 2013 Sandwich Course on Neuroradiology, Ede/NL

*Arterial spin labelling MRI in clinical practice: current and future applications*

22 May 2013 51st Annual Meeting of the American Society of Neuroradiology, San Diego, CA/US

### *fMRI Tips&Tricks*

9-10 April 2013 European Course of Neuroradiology, Athens/GR

### *Advanced MR neuroimaging in multicentre trials: Experience from the EORTC Brain Tumour Group*

8 March 2013 European Congress of Radiology, Vienna/AT

### *Functional MRI of the Brain*

17 January 2013 Erasmus School of Accounting & Assurance Executive Programme, Rotterdam/NL

19 January 2012 Erasmus School of Accounting & Assurance Executive Programme, Rotterdam/NL

### *Functional neuroanatomy*

14 December 2012 ESMRMB Hands-on Course: fMRI&DTI in Clinical Practice, Paris/FR

### *Diffusion tensor imaging: presurgical evaluation of white matter tracts*

6 October 2012 ESMRMB annual meeting teaching session, Lisbon/PT

### *fMRI for the MRI-tech*

6 October 2012 ESMRMB annual meeting teaching session, Lisbon/PT

### *Neuroradiology of brain tumours*

19 September 2012 EURO-CNS course on neuropathology, Zagreb/HR

### *What is the proven role of perfusion weighted imaging?*

7-8 September 2012 EANO 10th annual meeting, Marseille/FR

### *Poster highlights: Advanced neuroimaging of brain tumours*

7-8 September 2012 EANO 10th annual meeting, Marseille/FR

### *DSC perfusion imaging in clinical practice*

20 July 2012 GE Healthcare application specialist training, Paris/FR

### *Neurotrauma: the evidence*

26 June 2012 Trauma physicians' regional meeting, Antwerp/BE

### *fMRI of vascular disease*

24 April 2012 Dutch vascular meeting, Noordwijk/NL

### *Neurotrauma*

3 April 2012 Siemens CT users day, Dordrecht/NL

### *DTI of vascular disorders*

28-30 October 2011 European Course of Neuroradiology, Tarragona/ES

### *fMRI of vascular disorders*

28-30 October 2011 European Course of Neuroradiology, Tarragona/ES

### *Round table discussion: "MR tractography: why DTI is not enough"*

8 October 2011 ESMRMB annual meeting teaching session, Leipzig/DE

### *Perfusion weighted imaging: DSC, DCE or ASL?*

8 October 2011 ESMRMB annual meeting teaching session, Leipzig/DE

### *Advanced brain tumour imaging*

21, 24 June 2011 Sandwich Course Neuroradiology, Ede/NL

### *Perfusion imaging of brain tumours*

10 June 2011 Dutch Society for Radiotherapy and Oncology, Utrecht/NL

### *Clinical symptoms correlated with anatomy*

3 March 2011 European Congress of Radiology, Vienna/AT

### *Imaging in minor head injury: early complications and late consequences*

19 January 2011 Benecke Annual Symposium of Neurology, Utrecht/NL

### *Morbus Behçet, Antiphospholipid syndrome and Susac syndrome: imaging*

15 April 2010 7<sup>th</sup> International Conference Course of the Dutch Society of Neuroradiology, Groningen/NL

### *Clinical applications of fMRI & DTI*

6 November 2009 ESMRMB Hands-on fMRI&DTI, Rotterdam/NL

### *Evidence based medicine in neurotrauma imaging*

18 July 2009 International Symposium on State-of-the-Art Imaging, Taormina/IT

### *Imaging and neurovascular intervention in acute stroke*

18 July 2009 International Symposium on State-of-the-Art Imaging, Taormina/IT

### *Neuro-applications at 3T: what can you expect?*

10 March 2007 European Congress of Radiology – GE Healthcare lunch symposium, Vienna/AT

### *Fusion of fMRI and diffusion tensor: practical applications*

23 September 2006 ESMRMB – GE Healthcare lunch symposium, Warsaw/PL

### *conference presentations*

1. Koene S, Incekara F, Van der Voort S, Vincent A, Van den Bent M, Lycklama a Nijeholt G, Nandoe Tewarie R, **Smits M**. *Identifying molecular subtypes of non-enhancing glioma using MRI perfusion and diffusion parameters*. EANO 2018, Stockholm/SE.
2. Gahrman R, Leemans A, Van der Holt B, Vernhout RM, Bromberg J, Taal W, Vos J, De Groot JC, Hanse M, Van den Bent MJ, **Smits M**. *Minimum apparent diffusion coefficient (ADC<sub>min</sub>) decrease after bevacizumab and lomustine predicts overall survival (OS) in recurrent glioblastoma*. 40th annual scientific meeting of the ESNR 2017, Malmö/SE.
3. Thust S, Yousry T, Bargallo N, Vernooij MW, **Smits M**. *Glioma Magnetic Resonance Imaging Practices in Europe: Results from the European Society for Neuroradiology (ESNR) Diagnostic Subcommittee Survey on Glioma Imaging*. RSNA 2016, Chicago, IL/US: oral presentation.
4. Gahrman R, Van den Bent M, Van der Holt B, Vernhout R, Taal W, Taphoorn MJB, De Groot JC, Beerepoot L, Jasperse B, **Smits M**. *Radiological response assessment in the era of bevacizumab: RANO or volumetry? A report from the BELOB trial*. SNO annual meeting, Scottsdale, AZ/US: oral presentation (selected as 'Daily Highlight').
5. Thust S, Yousry T, Bargallo N, Vernooij MW, **Smits M**. *Glioma Magnetic Resonance Imaging Practices in Europe: Results from the European Society for Neuroradiology (ESNR) Diagnostic Subcommittee Survey on Glioma Imaging*. ESMRMB 2016, Vienna/AT: oral presentation.
6. Incekara F, Satoer D, Visch-Brink E, Vincent A, **Smits M**. *Correlation between pre-operative cognitive deficits and language white matter tract invasion in presumed low grade glioma patients*. ESMRMB 2016, Vienna/AT: oral presentation.
7. Tjong R, Van den Bent M, **Smits M**. *High diagnostic accuracy of dynamic susceptibility contrast (DSC) magnetic resonance (MR) perfusion imaging to distinguish radiation necrosis from recurrent tumor in high grade glioma patients*. European Congress of Radiology, Vienna/AT, 1-5 March 2012: oral presentation.
8. **Smits M**, Seelaar HC, Van Swieten JC, Van der Lugt A. *Neuroimaging in dementia: how to get your head around it*. Radiological Society of North America 96<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 28 Nov-3 Dec 2010: educational exhibit.
9. **Smits M**, Van den Hauwe L, Steens SC, Meiners LC. *Beware the MS mimics: Behçet's, antiphospholipid, and Susac's disease*. Radiological Society of North America 96<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 28 Nov-3 Dec 2010: educational exhibit.
10. Klip SHJ, Van de Sandt-Koenderman WME, Van der Meulen AC, Van der Lugt A, Visch-Brink EG, **Smits M**. *Spoken versus melodic language processing in healthy volunteers: an fMRI study*. European Congress of Radiology, Vienna/AT, 4-8 March 2009: oral presentation.
11. Michielsen ME, Selles RW, Van der Geest JN, Eckhart M, Stam HJ, Ribbers GM, Bussmann JBJ, **Smits M**. *Functional improvement and cortical reorganisation after mirror therapy in stroke patients: a randomised, controlled trial*. European Congress of Radiology, Vienna/AT, 4-8 March 2009: oral presentation.

12. **Smits M**, Dippel DWJ, Houston GC, Wielopolski PA, Hunink MGM, Van der Lugt A. *Brain plasticity of selective attention processing in patients with chronic postconcussion syndrome after complicated minor head injury*. Radiological Society of North America 95<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 29 Nov-4 Dec 2009: oral presentation.
13. **Smits M**, Dippel DWJ, Houston GC, Wielopolski PA, Hunink MGM, Van der Lugt A. *Brain plasticity of selective attention processing in patients with chronic postconcussion syndrome after complicated minor head injury*. European Society for Magnetic Resonance in Medicine and Biology 26th Annual Meeting, Antalya/TK, 1-3 Oct 2009: oral presentation.
14. **Smits M**, Dippel DWJ, Houston GC, Wielopolski PA, Koudstaal PJ, Hunink MGM, Van der Lugt A. *Compensatory brain activity of selective attention in patients with postconcussion syndrome one month after minor head injury*. European Congress of Radiology, Vienna/AT, 6-10 March 2009: oral presentation.
15. **Smits M**, Vincent A, Bruininks S, Wielopolski P, Van der Lugt A. *Functional MRI and diffusion tensor imaging in clinical practice: everything you need to know from acquisition to interpretation*. Radiological Society of North America 94<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 30 Nov-5 Dec 2008: educational exhibit.
16. **Smits M**, Houston GC, Dippel DWJ, Wielopolski PA, Koudstaal PJ, Hunink MGM, Van der Lugt A. *Microstructural white matter damage in postconcussion syndrome after minor head injury*. European Society for Magnetic Resonance in Medicine and Biology 25<sup>th</sup> Annual Meeting, Valencia/ES, 2-4 Oct 2008: oral presentation.
17. **Smits M**, Dippel DWJ, Van Rijssel DA, Dekker HM, Vos PE, Kool DR, Nederkoorn PJ, Twijnstra A, Hofman PAM, Tanghe HLJ, Hunink MGM. *Cost-effectiveness of CT scanning in minor head injury: selective strategies versus scanning all patients*. European Congress of Radiology, Vienna/AT, 7-11 March 2008: oral presentation.
18. Bos D, Van der Lugt A, **Smits M**. *Optimisation of hypercapnia paradigms using cued breath holding at 1.5T and 3.0T*. European Congress of Radiology, Vienna/AT, 7-11 March 2008: poster presentation.
19. **Smits M**, Hunink MGM, Van Rijssel DA, Dekker HM, Vos PE, Kool DR, Nederkoorn PJ, Twijnstra A, Hofman PAM, Tanghe HLJ, Dippel DWJ. *Long-term outcome after complicated minor head injury*. Radiological Society of North America 93<sup>rd</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 25-30 Nov 2007: oral presentation.
20. **Smits M**, Wielopolski PA, Houston GC, Tanghe HLJ, Van der Lugt A. *Advanced Magnetic Resonance (MR) neuroimaging at 3T: What to expect?* Radiological Society of North America 93<sup>rd</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 25-30 Nov 2007: educational exhibit.
21. **Smits M**, Dippel DWJ, Houston GC, Wielopolski PA, Koudstaal PJ, Hunink MGM, Van der Lugt A. *Brain activation changes of working memory in minor head injury with functional Magnetic Resonance Imaging (fMRI)*. 12<sup>th</sup> Dutch Radiology Conference, Rotterdam/NL, 27-28 Sep 2007: oral presentation.
22. **Smits M**, Hunink MGM, Van Rijssel DA, Dekker HM, Vos PE, Kool DR, Nederkoorn PJ, Twijnstra A, Hofman PAM, Tanghe HLJ, Dippel DWJ. *Long-term outcome after complicated minor head injury*. 12<sup>th</sup> Dutch Radiology Conference, Rotterdam/NL, 27-28 Sep 2007: oral presentation.
23. **Smits M**, Dippel DWJ, Wielopolski PA, Houston GC, Koudstaal PJ, Hunink MGM, Van der Lugt A. *Working memory related differences in brain activation measured with functional Magnetic Resonance Imaging (fMRI) in patients 1 month after minor head injury compared to healthy controls*. Joint annual meeting of the ESMRMB-ISMRM, Berlin/DE, 19-25 May 2007: oral presentation.
24. **Smits M**, Dippel DWJ, Wielopolski PA, Houston GC, Koudstaal PJ, Hunink MGM, Van der Lugt A. *Brain activation changes related to working memory in minor head injury patients compared to healthy controls measured with functional Magnetic Resonance Imaging (fMRI)*. European Congress of Radiology, Vienna/AT, 9-13 March 2007: oral presentation.
25. **Smits M**, Vernooij MW, Wielopolski PA, Houston GC, Krestin GP, Van der Lugt A. *Fiber density asymmetry of the Arcuate Fasciculus in relation to functional hemispheric language lateralization in both right and left-handed healthy subjects: a combined functional MRI and DT-tractography study*. European Congress of Radiology, Vienna/AT, 9-13 March 2007: oral presentation.

26. **Smits M**, Hunink MGM, Nederkoorn PJ, Dekker HM, Vos PE, Kool DR, Hofman PAM, Twijnstra A, De Haan GG, Tanghe HLJ, Dippel DWJ. *Loss of consciousness in minor head injury: "conditio sine qua non" or just a risk factor?* European Congress of Radiology, Vienna/AT, 9-13 March 2007: oral presentation.
27. **Smits M**, Dippel DWJ, Wielopolski PA, Koudstaal PJ, Hunink MGM, Van der Lugt A. *Brain activation changes of working memory in minor head injury patients measured with functional Magnetic Resonance Imaging (fMRI).* Radiological Society of North America 92<sup>nd</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 26 Nov -1 Dec 2006: oral presentation.
28. **Smits M**, Dippel DWJ, De Haan GG, Nederkoorn PJ, Kool DR, Vos PE, Dekker HM, Twijnstra A, Hofman PAM, Tanghe HLJ, Hunink MGM. *The Dutch prediction rule for the use of Computed Tomography (CT) in patients with minor head injury.* Radiological Society of North America 92<sup>nd</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 26 Nov-1 Dec 2006: oral presentation.
29. **Smits M**, Dippel DWJ, De Haan GG, Nederkoorn PJ, Kool DR, Vos PE, Dekker HM, Twijnstra A, Hofman PAM, Tanghe HLJ, Hunink MGM. *The Dutch prediction rule for the use of Computed Tomography (CT) in patients with minor head injury.* 11<sup>th</sup> Dutch Radiology Conference, Kaatsheuvel/NL, 17 Nov 2006: oral presentation.
30. **Smits M**, Vernooij M, Wielopolski P, Houston G, Vrooman H, Krestin G, Van der Lugt A. *Combining functional MRI and Diffusion Tensor Imaging to visualize the Corticospinal Tract: tracking the homunculus.* Human Brain Mapping 12<sup>th</sup> annual meeting, Florence/IT, 11-15 June 2006: poster presentation.
31. Vernooij M, **Smits M**, Wielopolski P, Houston G, Vincent A, Krestin G, Van der Lugt A. *Using Diffusion Tensor Imaging to assess language hemispheric dominance in the pre-operative assessment of brain tumor patients.* Human Brain Mapping 12<sup>th</sup> annual meeting, Florence/IT, 11-15 June 2006: poster presentation.
32. **Smits M**, Schraa-Tam CK, Van der Geest JN, Koudstaal PJ, Van der Lugt A. *Evaluation of working memory with functional Magnetic Resonance Imaging (fMRI): an overview of several paradigms and research and clinical applications.* European Congress of Radiology, Vienna/AT, 3-7 March 2006: educational exhibit.
33. **Smits M**, Dippel DWJ, De Haan GG, Nederkoorn PJ, Kool DR, Vos PE, Dekker HM, Twijnstra A, Hofman PAM, Tanghe HLJ, Hunink MGM. *National and international guidelines for Computed Tomography in minor head injury patients: a prospective multicentre validation study.* Radiological Society of North America 91<sup>st</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 27 Nov-2 Dec 2005: oral presentation.
34. **Smits M**, Dippel DWJ, De Haan GG, Nederkoorn PJ, Kool DR, Vos PE, Dekker HM, Twijnstra A, Hofman PAM, Tanghe HLJ, Hunink MGM. *Computed Tomography (CT) in patients with minor head injury: external validation of two published decision rules.* Radiological Society of North America 91<sup>st</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 27 Nov-2 Dec 2005: poster presentation.
35. **Smits M**, Visch-Brink E, Schraa-Tam CK, Van der Geest JN, Koudstaal PJ, Van der Lugt A. *Functional Magnetic Resonance Imaging (fMRI) of language: an overview of easy to implement language paradigms for clinical and research purposes.* Radiological Society of North America 91<sup>st</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 27 Nov-2 Dec 2005: education exhibit.
36. **Smits M**, Dippel DWJ, De Haan GG, Nederkoorn PJ, Kool DR, Vos PE, Dekker HM, Twijnstra A, Hofman PAM, Tanghe HLJ, Hunink MGM. *National and international guidelines for Computed Tomography in minor head injury patients: a prospective multicentre validation study.* 10<sup>th</sup> Dutch Radiology Conference, Noordwijkerhout/NL, 29-30 Sept 2005: oral presentation.
37. **Smits M**, Dippel DWJ, De Haan GG, Nederkoorn PJ, Kool DR, Vos PE, Dekker HM, Twijnstra A, Hofman PAM, Tanghe HLJ, Hunink MGM. *Computed Tomography (CT) in patients with minor head injury: external validation of two published decision rules.* 10<sup>th</sup> Dutch Radiology Conference, Noordwijkerhout/NL, 29-30 Sept 2005: oral presentation.
38. **Smits M**, Kovacs S, De Ridder D, Peeters R, Van Hecke P, Sunaert S. *Lateralization of signal change in the auditory pathway in patients with lateralized tinnitus studied with functional Magnetic Resonance Imaging (fMRI).* Radiological Society of North America 90<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 27 Nov-3 Dec 2004: oral presentation.



39. **Smits M**, Dippel DWJ, De Haan GG, Tanghe HLJ, Hunink MGM. *Indications for computed tomography (CT) in patients with minor head injury: validation of published decision rules and individual risk factors*. Radiological Society of North America 90<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 27 Nov-3 Dec 2004: poster presentation.
40. Schraa-Tam CK, **Smits M**, Van der Lugt A, Van der Geest JN. *Functional Magnetic Resonance Imaging (fMRI) of vestibular and visual interactions in caloric vestibular stimulation*. Radiological Society of North America 90<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 27 Nov-3 Dec 2004: poster presentation.
41. **Smits M**, Dippel DWJ, De Haan GG, Tanghe HLJ, Hunink MGM. *Indications for computed tomography (CT) in patients with minor head injury: validation of published decision rules and individual risk factors*. 9<sup>th</sup> Dutch Radiology Conference, Noordwijkerhout/NL, 16-17 Sept 2004: oral presentation.
42. **Smits M**, Kovacs S, De Ridder D, Peeters R, Van Hecke P, Sunaert S. *Lateralization of signal change in the auditory pathway in patients with lateralized tinnitus studied with functional Magnetic Resonance Imaging (fMRI)*. 9<sup>th</sup> Dutch Radiology Conference, Noordwijkerhout/NL, 16-17 Sept 2004: oral presentation.
43. **Smits M**, Kovacs S, De Ridder D, Peeters R, Van Hecke P, Sunaert S. *Lateralization of signal change in the auditory pathway in patients with lateralized tinnitus studied with functional Magnetic Resonance Imaging (fMRI)*. European Society for Magnetic Resonance in Medicine and Biology 21<sup>st</sup> Annual Meeting, Copenhagen/DK, 9-12 Sept 2004: oral presentation.
44. **Smits M**, Peeters RR, Van Hecke P, Sunaert S. *A 3T event-related functional Magnetic Resonance Imaging (fMRI) study of natural taste perception*. International Society for Magnetic Resonance in Medicine 12<sup>th</sup> Scientific Meeting, Kyoto (JP), 15 -21 May 2004: poster presentation.
45. **Smits M**, Dippel DWJ, De Haan GG, Tanghe, HLJ, Hunink MGM. *Indications for Computed Tomography (CT) in patients with minor head injury: generalization of a published decision rule*. Radiological Society of North America 89<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL/US, 28 Nov -4 Dec 2003: poster presentation.
46. **Smits M**, Dippel DWJ, De Haan GG, Tanghe, HLJ, Hunink MGM. *Indications for Computed Tomography (CT) in patients with minor head injury: generalization of a published decision rule*. 8<sup>th</sup> Dutch Radiology Conference, Noordwijkerhout/NL, 2-3 Oct 2003: oral presentation.
47. **Smits M**, Wilmink JT, Vles JSH. *Synostotic and positional plagiocephaly: two types of skull deformity studied with 3D Computed Tomography (CT)*. 10<sup>th</sup> European Conference for Students and Young Doctors, Berlin/DE, 21-24 Oct 1998: oral presentation.
48. **Smits M**, Wilmink JT, Vles JSH. *Synostotic and positional plagiocephaly: two types of skull deformity studied with 3D Computed Tomography (CT)*. 3<sup>rd</sup> Dutch Radiology Conference, Veldhoven/NL, 18-19 Sept 1998: oral presentation.
49. **Smits M**, Wilmink JT, Vles JSH. *Synostotic and positional plagiocephaly: two types of skull deformity studied with 3D Computed Tomography (CT)*. 2<sup>nd</sup> Maastricht Medical Students Research Conference, Maastricht/NL, 18 March 1998: poster presentation.