

Marion Smits .

CURRICULUM VITÆ
DECEMBER 2022

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), and the European Organisation for Research and Treatment of Cancer (EORTC). 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
Chief of Neuroradiology
Consultant Neuro- and Head&Neck Radiologist
Chair of the Neuroradiology fellowship programme
Erasmus MC – University Medical Centre Rotterdam, Rotterdam/NL

Hon. Professor of Neuroradiology
Faculty of Applied Sciences, Delft University of Technology, Delft /NL

Medical Delta Professor, Scientific Programme Lead
Medical Delta, Delft /NL

Chair, Member of Executive Council
European Society of Radiology (ESR) Research Committee

(Past) Chair
• EORTC Imaging Group (Past Chair)
• EORTC Brain Tumour Group Imaging Committee (Chair)

Chair, Board Member
Radiological Society of the Netherlands Research Committee

Course director
Joint ESNR-ESMRMB course on advanced neuroimaging techniques

Active member [upon invitation]
• Medical Delta Scientific Board
• 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
• ISMRM Standards working group
• Quantitative Imaging Biomarker Alliance (QIBA) working group on ASL

- ESR Executive Council member
- Board member of the Radiological Society of the Netherlands
- 2022 Senior Fellow of ISMRM
- 2022 Fellow of ESMRMB
- 2021 AuntMinnie Europe Most Influential Radiology Researcher Award
- 2020 Honorary Member of the American Society of Neuroradiology
- President of the Dutch Society of Neuroradiology (2018-2021)
- President of ESMRMB (2020)
- Visiting Professor at Memorial Sloan Kettering Cancer Center (2018) and Johns Hopkins Medical Institution (2015)
- Young Health Council ('JongGR')
- PhD *cum laude* (2008)
- Lourens Penning Prize (2007)
- Marie Curie Fellowship (2003)

151

invited lectures

178

journal publications

12.3

average impact factor

48

H-index (Web of Science)

€4.9 million

current funding



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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 carepage 3
2. Researchpage 4
3. Teachingpage 10
4. Promoting neuroimaging innovations through public engagement and leadershippage 11

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WORKING HISTORY

Medical Delta Professor

2022-present Medical Delta

Chair: Prof. Dr. F.W. Janssen

Hon. Full Professor of Neuroradiology

2022-present Delft University of Technology, Delft/NL

Dean: Prof. Dr. Ir. P. Herder

Full Professor of Applied Physiological Neuroimaging

2018-present Erasmus MC, Rotterdam/NL

Head of department: Prof. dr. A. van der Lugt

Honorary Consultant and Reader

2014-2021 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. A. van der Lugt

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 a strong advocate for several innovations in clinical Radiology, such as structured reporting, protocol harmonisation, artificial intelligence (AI), 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 and implemented AI for volumetric brain assessment;
- within the Brain Tumour Centre we are integrating imaging, histopathology and molecular biology in the final diagnosis and implement AI for tumour volumetric assessment.

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, recovery after stroke and traumatic head injury. I closely collaborate with scientists at the Delft University of Technology (TU Delft) where I have an honorary appointment as Professor of Neuroradiology at the Faculty of Applied Sciences, with the aim to advance technological innovations in healthcare.

The clinical application and implementation of physiological neuroimaging techniques, commonly only used in the research arena, are an essential aspect of my research. As Medical Delta Professor I co-lead the scientific programme Cancer Diagnostics 3.0, together with dr. J. Kalkman (Imaging Physics, TU Delft) and prof. dr. M. van Osch (MRI Physics, Leiden University Medical Centre). 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 8 PhD theses to completion. My current research group consists of 9 PhD students, 2 assistant professors, 1 post-doctoral researcher, 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, Radiation Oncologists, Neurosurgeons, Rehabilitation Physicians, (Neuro)Psychologists, and Neurolinguists.

I had 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) and Neuroradiologists (head of dept: prof. T. Yousry).

SUPERVISION ACTIVITIES & ACHIEVEMENTS

PhD student supervision (as 'promotor')

P. Tang

2022 *Hitting the mark: Introducing artificial intelligence and state-of-the-art MRI techniques for precision radiotherapy of glioblastoma.*

A. Alafandi

2021 *High-resolution brain tumour vascular signature mapping with mutually informed MRI and intra-operative microDoppler ultrasound.*

C. Tseng

2020 *Imaging neurotoxicity after proton therapy.*

S. Derks

2020 *Imaging in brain metastasis.*

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.*

S.R. van der Voort

2016 *Eye to AI: MR image analysis of glioma using machine learning.*

PhD obtained *cum laude* on 26 October 2021 at Erasmus University Rotterdam, Rotterdam/NL, now postdoctoral researcher.

F. Incekara

2016 *Imaging and resection of glioblastoma in light of molecular markers.*

PhD obtained on 10 March 2021 at Erasmus University Rotterdam, Rotterdam/NL, now Psychiatry resident and post-doctoral researcher.

R. Gahrman

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

PhD obtained on 2 April 2019 at Erasmus University Rotterdam, Rotterdam/NL, now Neuroradiology fellow.

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 & mentoring

E. Mesman, postdoctoral researcher

2021-2022 *mentoring for female career development programme at Erasmus MC.*

M. Offerman, associate professor

2021-2022 *mentoring for female career development programme at Erasmus MC.*

M. Perlinska, European School of Radiology fellow

2021-2022 *Clinical neuroradiology.*

L.F. Fiorentini, European School of Radiology scholar

2021 *Clinical neuroradiology.*

T. Nunes, Neuroradiologist in Lisbon/PT

2021-present *mentoring development of research activities.*

Z.S. Erdal, visiting research from Ankara/TR

2021 *functional MRI.*

S.E.M. Veldhuijzen van Zanten, assistant professor
2019-present *Theranostic PET imaging for the management of CNS tumours.*

M. Zhao, postdoctoral researcher at Stanford University/US

2020-present *research mentoring through ESMRMB.*

E. Warnert, assistant professor

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

J. Jaspers, Radiation Oncology PhD candidate

2019-present *Proton therapy in glioma.*

M. Rosbergen, MSc student

2021 *AI for advanced MRI 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. Gravesteijn, 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/EUR Convergence: €19,000
2022-2023 Deep Medical Imaging Flagship incentive fund (main applicant)

NWO Hestia impulse for refugees in science: €105,000
2021-2023 The Sound of flow: High-resolution brain tumour vascular signature mapping with mutually informed MRI and intra-operative microDoppler ultrasound. (main applicant)

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
2019-2023 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; project number 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

Fellow

2022 European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)

Senior fellow

2022 International Society of Magnetic Resonance in Medicine (ISMRM)

Most Influential Radiology Researcher

2021 Aunt Minnie Europe

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 12th 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 12th annual meeting,
Florence/IT

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

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

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

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

MISCELLANEOUS RESEARCH ACTIVITIES

PhD review committee

C. Zhang ('grote commissie')
23 Nov 2022 Image reconstruction and motion
compensation methods for fast MRI (EUR, Rotterdam/
NL).

N. Samuels ('grote commissie')
22 Nov 2022 Endovascular treatment for ischemic
stroke (EUR, Rotterdam/NL).

R.M. Martens ('kleine commissie')
23 Sept 2022 Functional MRI and molecular imaging in
head and neck cancer (VU, Amsterdam/NL).

J.K.W. Gerritsen ('rector')
21 June 2022 Awake brain surgery in glioblastoma
patients (EUR, Rotterdam/NL).

R. Eijgelaar ('grote commissie')
13 April 2022 Development and application of tools for
large scale population based evaluation and
optimization of localized glioma treatment (UvA,
Amsterdam/NL).

L. Núñez González ('grote commissie')
12 April 2022 Fast multi-parametric acquisition
methods for quantitative MRI (EUR, Rotterdam/NL).

P.B. Due-Tønnessen ('first opponent')
22 March 2022 Fast Evaluation of functional magnetic
resonance imaging in the diagnosis of brain tumors
and other brain lesions for assessment of clinical
efficacy. (UiO, Oslo/NO).

S. Rigters ('grote commissie')
14 Dec 2021 Peripheral and Central Aspects of Age-
related Hearing Loss (EUR, Rotterdam/NL).

I. Compter ('grote commissie')
13 Oct 2021 Technological innovations
in diagnosis and treatment of glioblastoma.
(Maastricht University/NL).

I. Bones ('grote commissie')
7 Oct 2021 Technical advances paving the way for non-
invasive renal perfusion MRI. (Utrecht University/NL).

V. Venkatraghavan ('kleine commissie')
8 June 2021 The symphony of cacophony.
Understanding the order in neurodegenerative
diseases. (EUR, Rotterdam/NL).

L. Stipdonk ('kleine commissie')
3 June 2021 Language functions of school-aged
children born very preterm and their underlying brain
development. (EUR, Rotterdam/NL).

S. Averina ('grote commissie')
22 April 2021 Bilateral neural correlates of treatment-
induced changes in chronic aphasia. (Groningen
University/NL).

M. Van der Meulen ('kleine commissie')
21 April 2021 Primary Central Nervous System
Lymphoma. Diagnostic evaluation, neurocognitive
functioning and health-related quality of life. (EUR,
Rotterdam/NL).

C. Van den Brand ('kleine commissie')
24 Mar 2021 Traumatic brain injury, epidemiology, risk
factors and decision making. (EUR, Rotterdam/NL).

M. Kerkhof ('kleine commissie')
15 Dec 2020 Antiepileptic and antitumor treatment in
brain tumor patients: Impact on clinical and
radiological outcome. (EUR, Rotterdam/NL).

P. Langenhuizen ('grote commissie')
18 Dec 2020 Outcome predictors for Gamma Knife
radiosurgery on vestibular schwannoma. (TU,
Eindhoven/NL).

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. Dopfer ('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. Papma ('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 39.

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, Rijndam Rotterdam/NL

Introduction to Radiology

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

Medical decision making practicals

2006 Medicine (4th 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 39.

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

Board member

2022-present Radiological Society of the Netherlands (NVvR): chair of the Research Committee and international relations

Executive Council member

2019-present European Society of Radiology (ESR): chair of Publications Committee (2019-2022), chair of Research Committee (2022-present)

Chief of Neuroradiology

2019-present Erasmus MC department of Radiology & Nuclear Medicine

Past-Chair

2021-present EORTC Imaging Group

Chair

2018-present EORTC Brain Tumour Group Imaging Committee

Presidential tract

2017-2021 European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)

Chair of neuro-oncology working group

2014-2020 ESNR Diagnostic committee

President

2018-2021 Dutch Society of Neuroradiology

Representative for the Netherlands

2015-2021 European Society of Neuroradiology

Representative for the Netherlands

2012-2021 UEMS Division of Neuroradiology

Congress President

2015-2018 2018 ESNR annual meeting

General Secretary of the Board

2012-2018 Dutch Society of Neuroradiology

Board member (Treasurer, Vice-Chair, Chair)

2013-2021 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 WFNR 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 Chair

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

Chair

2005 MRI user meetings, Erasmus MC

President

2002-2004 Junior Doctors' Association Erasmus MC

Chair

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

EXTERNAL CONSULTANCY

2021-present Bracco Gadoplus phase 1 trial

2021 Consultancy for Bracco AI-project (€30,000)

2016-present Independent reviewer for Parexel Intl. Trial review for EORTC-1410 (±€150,000)

2015-present Consultancy for Quantib B.V.

INTERNATIONAL ALLIANCES

2022-present ISMRM Standards working group

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

2016-2019, 2022-present European Imaging Biomarker Alliance (EIBALL)

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

2015-2020 ISMRM MRI Value Initiative

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

GUIDELINE & POLICY DEVELOPMENT

2013, 2019-present Dutch glioma guidelines

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

2008 MR imaging protocol for EORTC brain tumour trials

BOOK CHAPTERS

see page 16.

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 2021;18:170-186.

Le Rhun E, Guckenberger M, **Smits M**, Dummer R, Bachelot T, Sahm F, Galldiks N, De Azambuja A, Berghoff AS, Metellus P, Peters S, Hong Y-K, Winkler F, Schadendorf D, Van den Bent M, Seoane J, Stahel R, Minniti G, Wesseling P, Weller M, Preusser M. *EANO-ESMO clinical practice guidelines for diagnosis and follow-up of patients with brain metastasis from solid tumours*. Ann Oncol 2021;32:1332-47.

Gijtenbeek JMM, Dewit LGH, Van Elst KJA, Enting RH, Gathier CS, De Graeff A, Heessels-Smetsers J, Hendriks LEL, Jacobs-van Leur JJMG, Lagerwaard FJ, Nandoe Tewarie RDS, **Smits M**, De Vos FYFL, Zindler JD, Buddeke J. *Revision of the guideline Brain metastases; the need for multidisciplinary management [published in Dutch: Revisie richtlijn Hersenmetastasen; waarom multidisciplinair overleg noodzakelijk is.]* Nederlands Tijdschrift voor Oncologie (NTvO) 2020;17:193-5.

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, Ai 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. *Neuro Oncol* 2020;22:757-772.

Kaufmann TJ, **Smits M**, 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. *Consensus recommendations for a standardized brain tumor imaging protocol for clinical trials in brain metastases (BTIP-BM)*. *Neuro Oncol* 2020;22:757-772.

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

Non-invasive brain cancer diagnostics with MRI
15 Dec 2022 Medical Delta interview and movie:
<https://www.medicaldelta.nl/nieuws/portret-en-video-marion-smits-ik-vind-het-belangrijk-dat-onderzoek-en-innovaties-ook-landen-in-de-praktijk>

Federated Learning
15 Dec 2022 Interview with Dutch Health Hub (~40k followers): <https://www.dutchhealthhub.nl/artikel/gefedereerd-leren/>

AI for Neuroradiology
10 Feb 2022 AuntMinnie webinar: [https://](https://www.auntminnie.com/index.aspx?sec=vendor&sub=webinars&pag=dis&ItemID=135136)

www.auntminnie.com/index.aspx?sec=vendor&sub=webinars&pag=dis&ItemID=135136

'Hart van Rotterdam': AI for brain tumour diagnosis
26 Oct 2021 Rijnmond TV episode 21004: <https://www.rijnmond.nl/tv/programma/261/Het-Hart-van-Rotterdam/aflevering/32513>

MRI of brain tumours: challenges and opportunities
11 Sept 2021 Patient meeting of the brain tumour section of patient organisation 'Hersenletsel' ('Brain injury'), Maarn/NL.

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 patient 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 patient meeting on brain tumours, Maarsse/NL

Web site explaining brain tumour imaging
2013-present 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 ~983k

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 RGH, 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 (2022)
	Q1 in bold
Mean IF Marion Smits	12.3
H-index Marion Smits (Web of Science)	48
Average citations per item	45.8
Mean IF subject category “neurosciences”	5.0
Mean IF subject category “radiology, nuclear medicine & medical imaging”	4.2
Mean IF subject category “oncology”	7.9
1 Henssen DJHA, Meijer FJA, Verburg FA, Smits M . <i>Challenges and opportunities for advanced neuroimaging of glioblastoma</i> . Br J Radiol 2023 Jan 1;96(1141):20211232. (invited paper)	3.6
2022	
2 Van der Voort SR, Incekara F, Wijnenga MMJ, Kapsas G, Gahrman R, Schouten JW, Nandoe Tewarie R, Lycklama GJ, De Witt Hamer PC, Eijgelaar RS, French PJ, Dubbink HJ, Vincent AJPE, Niessen WJ, Van den Bent MJ, Smits M , Klein S. <i>Combined molecular subtyping, grading, and segmentation of glioma using multi-task deep learning</i> . Neuro Oncol 2022 Jul 5;noac166. doi: 10.1093/neuonc/noac166. Online ahead of print.	13.0

- 3 Hasanov E, Yeboa DN, Tucker MD, Swanson TA, BeckhamTH, Rini B, Ene CI, Hasanov M, Derks S, **Smits M**, Dudani S, Heng DY, Brastianos PK, Bex A, Hanalioglu S, Weinberg JC, Hirsch L, Carlo MI, Aizer A, Brown PD, Bilen MA, Chang EL, Jaboin J, Brugarolas J, Choueiri TK, Atkins MB, McGregor BA, Halasz LM, Patel TR, Soltys SG, McDermott DF, Elder JB, Baskaya MK, Yu JB, Timmerman R, Kim MM, Mut M, Markert J, Beal K, Tannir NM, Samandouras G, Lang FF, Giles R, Jonasch E. *An interdisciplinary consensus on the management of brain metastases in patients with renal cell carcinoma*. *CA Cancer J Clin* 2022;72:454-489. **286**
- 4 Teunissen WHT, Govaerts CW, Kramer MCA, Labrecque JA, **Smits M**, Dirven L, Van der Hoorn A. *Diagnostic accuracy of MRI techniques for treatment response evaluation in patients with brain metastasis: a systematic review and meta-analysis*. *Radiother Oncol* 2022;177:121-133. **6.9**
- 5 Derks SHAE, De Joode K, Mulder EEAP, Ho LS, Joosse A, De Jonge MJA, Verhoef C, Grünhagen DJ, **Smits M**, Van den Bent MJ, Van der Veldt AAM. *The meaning of screening: detection of brain metastasis in the adjuvant setting for stage III melanoma*. *ESMO Open* 2022;7:100600. **6.9**
- 6 Van Opijnen MP, Tesileanu CMS, Dirven L, Van der Meer PB, Wijnenga MMJ, Vincent AJPE, Broekman MLD, Dubbink HJ, Kros JM, Van Duinen SG, **Smits M**, French PJ, Van den Bent MJ, Taphoorn MJB, Koekkoek JAF. *IDH1/2 wildtype gliomas grade 2 and 3 with molecular glioblastoma-like profile have a distinct course of epilepsy compared to IDH1/2 wildtype glioblastomas*. *Neuro Oncol* 2022. Doi:10.1093/neuonc/noac197. Online ahead of print. **13.0**
- 7 Bakas S, Pati S, Baid U, (...) **Smits M*** (...) Martin J. *Federated learning enables big data for rare cancer boundary detection*. *Nat Commun* 2022 Dec;13:7346. *Author position 157/276. **17.7**
- 8 Nunez-Gonzalez L, Van Garderen KA, **Smits M**, Jaspers J, Romero AM, Poot DHJ, Hernandez-Tamames JA. *Pre-contrast MAGiC in treated gliomas: a pilot study of quantitative MRI*. *Sci Rep* 2022;12:21820. **5.0**
- 9 Le Rhun E, Devos P, Winklhofer S, Lmalen H, Brandsma D, Callego J, Castellano A, Compter A, Dhermain F, Franceschi E, Forsyth P, Furner J, Galldiks N, Gempt J, Glantz M, Hattingen E, Hempel JM, Jaeckle K, Kumthekar P, Lukacova S, Minniti G, O'Brien B, Postma TJ, Roth P, Rudà R, Schaefer N, Schmidt N, **Smits M**, Snijders TJ, Thust S, Tonn JC, Van den Bent M, Van den Hoorn A, Vogin G, Wen P, Preusser M, Bendszus M, Weller M. *Prospective validation of a new imaging scorecard to assess leptomeningeal metastasis: a joint EORTC BTG and RANO effort*. *Neuro Oncol* 2022;24:1726-1735. **13.0**
- 10 DeSouza NM, Van der Lugt A, Deroose CM, Alberich-Bayarri A, Bidaut L, Fournier L, Costaridou L, Oprea-Lager DA, Kotter E, **Smits M**, Mayerhoefer ME, Boellaard R, Caroli A, De Geus-Oei LF, Kunz WG, Oei EH, Lecouvet F, Franca M, Loewe C, Lopci E, Caramella C, Persson A, Golay X, Dewey M, O'Connor JPB, De Graaf P, Gatidis S, Zahlmann G. *Standardised lesion segmentation for imaging biomarker quantitation: a European Society of Radiology and European Organisation for Research and Treatment of Cancer Consensus recommendation*. *Insights Imaging* 2022;13:159. **5.0**
- 11 Derks SHAE, **Smits M**. *Brain metastases: the role of clinical imaging*. *Br J Radiol* 2022;95:20210944 (invited paper) **3.6**
- 12 Lohmann P, Franceschi E, Vollmuth P, Dhermain F, Weller M, Preusser M, **Smits M**, Galldiks N. *Radiomics in neuro-oncological clinical trials*. *Lancet Digit Health* 2022;4:e841-e849. **36.6**
- 13 Vollmuth P, Foltyn M, Huang RY, Galldiks N, Petersen J, Isensee F, Van den Bent MJ, Barkhof F, Park JE, Park YW, Ahn SS, Brugnara G, Meredig H, Jain R, **Smits M**, Pope WB, Maier-Hein K, Weller M, Wen PY, Wick W, Bendszus M. *AI-based decision support improves reproducibility of tumor response assessment in neuro-oncology: an international multi-reader study*. *Neuro Oncol* 2022 Aug 2;noac189. doi: 10.1093/neuonc/noac189. Online ahead of print. **13.0**
- 14 Mijderwijk HJ, Nieboer D, Incekara F, Berger K, Steyerberg EW, Van den Bent MJ, Reifenberger G, Hänggi D, **Smits M**, Senft C, Rapp M, Sabel MS, Voss M, Forster MT, Kamp MA. *Development and external validation of a clinical prediction model for survival in glioblastoma patients*. *J Neurosurg* 2022 Jan 14;1-10. doi: 10.3171/2021.10.JNS211261. Online ahead of print. **5.4**

- 15 Draaisma K, Tesileanu CMS, De Heer I, Klein M, **Smits M**, Reijneveld JC, Clement PM, De Vos FYF, Wick A, Mulholland PJ, Taphoorn MJB, Weller M, Chinot OL, Kros JM, Verschuere T, Coens C, Golfinopoulos V, Gorlia T, Idbaih A, Robe PA, Van den Bent MJ, French PJ. *Prognostic significance of DNA methylation profiles at MRI enhancing tumor recurrence: a report from the EORTC 26091 TAVAREC trial*. Clin Cancer Res 2022 1;28:2440-2448. **13.8**
- 16 Pruis IJ, Koene SR, Van der Voort SR, Incekara F, Vincent AJPE, Van den Bent MJ, Lycklama à Nijeholt GJ, Nandoe Tewarie NDS, Veldhuijzen van Zanten SEM, **Smits M**. *Noninvasive differentiation of molecular subtypes of adult non-enhancing glioma using MRI perfusion and diffusion parameters*. NeuroOncol Adv 2022;4(1):vdac023.
- 17 Thakkar I, Arraño-Carrasco L, Cortés Rivera B, Zunino-Pesce R, Mery-Muñoz F, Rodríguez-Fernández M, **Smits M**, Mendez-Orellana C. *Alternative language paradigms for functional Magnetic Resonance Imaging as presurgical tools for inducing crossed cerebro-cerebellar language activations in brain tumor patients*. Eur Radiol 2022 Jan;32(1):300-307. **7.0**
- 18 Van Santwijk L, Kouwenberg V, Meijer F, **Smits M**, Henssen D. *A systematic review and meta-analysis on the differentiation of glioma grade and IDH mutational status by use of perfusion-based magnetic resonance imaging*. Insights Imaging, 2022;13:102. **5.0**
- 19 Lavrova A, Teunissen W, Warnert EA, Van den Bent MJ, **Smits M**. *Diagnostic accuracy of arterial spin labeling in comparison with dynamic susceptibility contrast-enhanced perfusion in brain tumor surveillance at 3T MRI*. Front Oncol 2022;12:849657. 5.7
- 20 Van Dorth D, Venugopal K, Poot DHJ, Hirschler L, De Bresser J, **Smits M**, Hernandez-Tamames JA, Debacker CS, Van Osch MJP. *Dependency of R-2 and R-2 * relaxation on Gd-DTPA concentration in arterial blood: Influence of hematocrit and magnetic field strength*. NMR Biomed 2022;35:e4653. **4.5**
- 21 Gahrman R, **Smits M**, Vernhout RM, Taal W, Kapsas G, De Groot JC, Hanse M, Vos M, Beerepoot LV, Buter J, Flach HZ, Van der Holt B, Van den Bent M. *The impact of different volumetric thresholds to determine progressive disease in patients with recurrent glioblastoma treated with bevacizumab*. NeuroOncol Adv 2022;4:vdac032.
- 22 Wolthuis N, Bosma I, Bastiaanse R, Cherian P, **Smits M**, Veenstra W, Wagemakers M, Vincent A, Satoer D. *Distinct slow-wave activity patterns in resting-state electroencephalography and their relation to language functioning in low-grade glioma and meningioma patients*. Front Neurosci 2022;16:748128. 5.2
- 23 Donders-Kamphuis M, Vincent A, Schouten J, **Smits M**, Docter-Kerkhof C, Dirven C, Kloet A, Nandoe Tewarie R, Satoer D. *Feasibility of awake brain surgery in glioblastoma patients with severe aphasia: Five case illustrations*. Aphasiology 2022. doi:10.1080/02687038.2022.2137773. Online ahead of print. 1.9
- 24 Fournier L, De Geus-Oei LF, Regge D, Elena Oprea-Lager D, D'Anastasi M, Bidaut L, Bäuerle T, Lopci E, Cappello G, Lecouvet F, Mayerhoefer M, Kunz WG, Verhoeff JJC, Caruso D, **Smits M**, Hoffmann RT, Gourtsoyianni S, Beets-Tan R, Neri E, DeSouza NM, Deroose CM, Caramella C. *Twenty years on: RECIST as a biomarker of response in solid tumours. An EORTC Imaging Group – ESOI joint paper*. Front Oncol 2022 Jan 10;11:800547. 5.7
- 25 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 2022;35:53-62. 2.5
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124. Vernooij M, **Smits M**, Wielopolski P, Vrooman H, Houston G, Vincent A, Krestin G, Van der Lugt A. *Combining functional MRI and Diffusion Tensor Imaging in the pre-operative assessment of the hand and foot fibers within the corticospinal tract*. *Proc Intl Soc Mag Reson Med* 2006;14:611.
125. Wielopolski P, Vernooij M, **Smits M**, Vrooman H, Breteler M, Krestin G, Van der Lugt A. *A 30 minute imaging protocol at 1.5T exploring higher spatial and functional information around white matter lesion and brain morphology in a large scale epidemiological study of the aging brain*. *Proc Intl Soc Mag Reson Med* 2006;14:3114.
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137. 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 NeuroImage 2005;26:1421.
138. **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 Geneeskd 2004;148:2570-2571.
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143. **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.
144. **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)*. MAGMA 2004;16:S131.
145. 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.
146. **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.
147. 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.
148. 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.
149. **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.
150. **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.
151. **Smits M**, Wilminck 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

Imaging phenotypes of glioma genotypes

18 Nov 2022 ESNR Advanced Diagnostic Course in Neuroradiology on Glioma Imaging, Madrid/ES

New WHO 2021 classification of primary brain tumours: what the radiologist needs to know

18 Nov 2022 ESNR Advanced Diagnostic Course in Neuroradiology on Glioma Imaging, Madrid/ES

Mapping the language system with task-based fMRI

4 Nov 2022 ESNR-ESMRMB European Course on Advanced Imaging Techniques in Neuroradiology, Valletta/MT

Debate: Imaging brain tumours - Is PET required or only a fancy option?

18 Oct 2022 EANM 2022 annual meeting, Barcelona/ES

Glioma imaging challenges

16 Sep 2022 ESNR 2022 annual meeting, Lisbon/PT

Case reading with Juniors

16 Sep 2022 ESNR 2022 annual meeting, Lisbon/PT

Radiomics: new source of biomarkers

15 Sep 2022 ESNR 2022 annual meeting, Lisbon/PT

Are molecular subtypes also radiologic subtypes? Radiogenomic mapping of brain tumours

10 Sep 2022 ESMO 2022 annual meeting, Paris/FR

Neuroimaging biomarkers

16 July 2022 ECR 2022 annual meeting, Vienna/AT

Debate: 'Imaging biomarkers: should we pay attention?'

15 July 2022 ECR 2022 annual meeting, Vienna/AT

Radiomics in brain tumor imaging

7 June 2022 Educational Webinars 'Update in Neuro-Oncology' of the Italian Society of Neurology, online

Pre- and posttreatment evaluation of gliomas

16 May 2022 meeting of the Scandinavian Neurosurgical Society, Bergen/NO

MRI perfusion: DSC, DCE, ASL

15 May 2022 meeting of the Scandinavian Neurosurgical Society, Bergen/NO

Post-treatment tumor imaging

15 May 2022 ASNR22/SNR XXII, online

Applying MRI tools to cope with the challenge of probing brain structure & physiology

11 May 2022 joint ISMRM-ESMRMB annual meeting, London/UK

Juggling without struggling – can, and should, academics do it all?

9 May 2022 joint ISMRM-ESMRMB annual meeting, London/UK

Joint Radiology grand rounds: Imaging in Neuro-oncology, case presentations

29 March 2022 Mass General Hospital and Brigham Women's Hospital, Harvard Medical School/US, online

Research dissemination

8 Feb 2022 ESR/ESOR Fundamentals of Radiological Research Course, online

Imaging in Neuro-oncology: challenges and opportunities

8 Dec 2021 Martinos Center for Biomedical Imaging, MGH, Charlestown/US, webinar

WHO2021 classification for gliomas

29 Nov 2021 RSNA annual meeting, Chicago, IL/US

Unknown film interpretation panel

29 Nov 2021 RSNA annual meeting, Chicago, IL/US

ASL, DSC, or DCE for brain tumour imaging?

14 Nov 2021 joint ESNR-ESMRMB course on advanced neuroimaging techniques, online

Brain tumours: essentials for clinical practice

4 Nov 2021 European School of Radiology (ESOR) ASKLEPIOS, online

Clinical assessment of treatment response

11 Oct 2021 IPR 2021, Rome/IT

What is the value of radiomics in neuro-oncology practice and in new molecular treatments?

1 Oct 2021 ESNR 2021, Geneva/CH

Radiogenomic approaches and advances: towards a virtual biopsy?

1 Oct 2021 ESNR 2021, Geneva/CH

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 ('differentiantenonderwijs'), 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 tumours

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

Advanced multimodal imaging for brain tumours

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, Maarsse/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 7th 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_{min}) 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. Tjiong 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 96th 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 96th 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 95th 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 94th 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 25th 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 93rd 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 93rd 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 injur with functional Magnetic Resonance Imaging (fMRI)*. 12th 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*. 12th 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 92nd 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 92nd 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.* 11th 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 12th 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 12th 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 91st 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 91st 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 91st 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.* 10th 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.* 10th 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).*

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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 90th 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 90th 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*. 9th Dutch Radiology Conference, Noordwijkerhout/NL, 16-17 Sept 2004: oral presentation.
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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 12th 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 89th 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*. 8th 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)*. 10th 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)*. 3rd 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)*. 2nd Maastricht Medical Students Research Conference, Maastricht/NL, 18 March 1998: poster presentation.