Alexander Leemans, Ph.D. Ph.D.h.c.mult.

Academic Curriculum Vitae (September, 2019)

Date of birth: 25-06-1979 Nationality: Belgium

ADDRESS

PROVIDI Lab
Image Sciences Institute
University Medical Center Utrecht
Heidelberglaan 100 (Room Q02.4.35)
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RESEARCH INTERESTS

Diffusion MRI, fiber tractography, neuroimaging, visualization, image processing, image analysis, Monte Carlo simulations, image registration, image segmentation, clustering, regularization

EDUCATION

Ph.D. in Science *(2003 – 2006) Department of Physics, University of Antwerp, Belgium*
Title: Modeling and Processing of Diffusion Tensor Magnetic Resonance Images for Improved Analysis of Brain Connectivity
Supervisors: J. Sijbers, P.M. Parizel, A. Van der Linden, and D. Van Dyck

M.Sc. in Physics *(2000 – 2002) Department of Physics, University of Antwerp, Belgium*
Title: Entropy based image registration
Supervisors: J. Sijbers and D. Van Dyck

B.Sc. in Physics *(1997 – 2000) Department of Physics, University of Antwerp, Belgium*

RESEARCH EXPERIENCE

06/2011 – present *Associate Professor (tenured faculty position)*
PROVIDI Lab, Image Sciences Institute, University Medical Center Utrecht, The Netherlands

01/2011 – 06/2011 *Assistant Professor (tenured faculty position)*
PROVIDI Lab, Image Sciences Institute, University Medical Center Utrecht, The Netherlands

01/2009 – 12/2010 *Assistant Professor (fixed-term faculty position)*
PROVIDI Lab, Image Sciences Institute, University Medical Center Utrecht, The Netherlands

01/2007 – 12/2008 *Post-doctoral Research Associate*
CUBRIC (Cardiff University Brain Research Imaging Centre), Cardiff University, United Kingdom (Supervisor: D.K. Jones)

10/2005 – 11/2005 *Visiting Ph.D. student*
The in vivo NMR center, Department of Biomedical Engineering, University of Alberta, Edmonton (Alberta), Canada (Supervisor: C. Beaulieu)

06/2005 – 07/2005 *Visiting Ph.D. student*
The Athinoula A. Martinos Center for Biomedical Imaging, Harvard University – MIT Division of Health Sciences & Technology and the Massachusetts General Hospital Radiology Department, Charlestown (Boston), Massachusetts, USA (Supervisor: D. Tuch)

01/2003 – 12/2006 *Ph.D. student (Research and Teaching Assistant)*
Vision Lab, Department of Physics, University of Antwerp, Belgium (Supervisor: J. Sijbers)

07/2002 – 12/2002 *Research Student*
Vision Lab, Department of Physics, University of Antwerp, Belgium in collaboration with Department of Pharmacology, Organon, Oss, The Netherlands and Department of Orthopedics, Erasmus Medical Centre, Rotterdam, The Netherlands. European Union grant QLRT-1999-02024: *Mechanical Integrity and Architecture of Bone relative to osteoporosis, ageing and drug treatment (MIAB).* (Supervisor: D. Van Dyck)

SUPERVISION

Postdocs

02/2017 – present Alberto De Luca – Utrecht, the Netherlands

05/2012 – present Erik O'Hanlon (postdoc) – jointly supervised by Mary Cannon (Royal College of Surgeons in Ireland, Dublin, Ireland)

10/2014 – 04/2017 Anneriet Heemskerk – Utrecht, the Netherlands

Ph.D. students

01/2019 – present Ernst Christiaanse (Ph.D. student in Medicine) – jointly supervised by T. Leiner (Utrecht, the Netherlands)

05/2018 – present Andrey Zhylka (Ph.D. student in Biomedical engineering) – jointly supervised by J. Pluim (TU/e, the Netherlands)

10/2017 – present Bruno Robalo (Ph.D. student in Biomedical engineering and Biophysics) – jointly supervised by Y. Reijmer and G.J. Biessels (Utrecht, the Netherlands)

09/2015 – present Samuel St-Jean (Ph.D. student in Computer Science) – jointly supervised by M. Viergever (Utrecht, the Netherlands)

12/2014 – present Fenghua Guo (Ph.D. student in Computer Science) – jointly supervised by M. Viergever (Utrecht, the Netherlands)

10/2014 – present Hamed Mesri (Ph.D. student in Medical Physics) – jointly supervised by M. Viergever (Utrecht, the Netherlands)

10/2014 – present Szabolcs Dávid (Ph.D. student in Medical Physics) – jointly supervised by M. Viergever (Utrecht, the Netherlands)

01/2014 – present Domenico Aquino (Ph.D. student in Engineering) – jointly supervised by A. Erbetta (Milano, Italy)

12/2013 – present Hannah Hulshoff (Ph.D. student in medicine) – jointly supervised by F. Jansen and K. Braun (Utrecht, the Netherlands)

07/2013 – present Ulrika Roine (Ph.D. student in medicine) – jointly supervised by M. Sams and P. Tani (University of Helsinki, Finland)

06/2013 – present Jelmer Kok (Ph.D. student in Medicine) – jointly supervised by B. Kremer (Groningen, the Netherlands)

03/2013 – present Omar Odishi (Ph.D. student in Medicine) – jointly supervised by R. Roos (Leiden, the Netherlands)

11/2013 – 10/2018 Wieke Haakma (Ph.D. student in medicine) – jointly supervised by P. Luijten, J. Hendrikse & M. Froeling (Utrecht, the Netherlands)

01/2012 – 06/2017 Timo Roine (Ph.D. student in Engineering) – jointly supervised by B. Jeurissen and J. Sijbers (Antwerp, Belgium)

01/2010 – 12/2017 Daniele Perrone (Ph.D. student in Engineering) – jointly supervised by W. Philips and J. Aelterman (Ghent, Belgium)

03/2012 – 09/2016 Chantal Tax (Ph.D. student in Medical Physics) – jointly supervised by M. Viergever (Utrecht, the Netherlands)

09/2010 – 11/2014 Jolien Gooijers (Ph.D. student in Kinesiology) – jointly supervised by S. Swinnen (Leuven, Belgium)

01/2007 – 11/2013 Jung-Lung Hsu (Ph.D. student in Medicine) – jointly supervised by M. Viergever (Utrecht, the Netherlands)

09/2009 – 10/2013 Sjoerd Vos (Ph.D. student in Medical Physics) – jointly supervised by M. Viergever (Utrecht, the Netherlands)

10/2006 – 03/2012 Ben Jeurissen (Ph.D. student in Physics) – jointly supervised by J. Sijbers (Antwerp, Belgium)

10/2005 – 06/2009 Wim Van Hecke (Ph.D. student in Medicine) – jointly supervised by J. Sijbers and P. Parizel

M.Sc. students

08/2019 – present Linda Reiland (M.Sc. student in Electrical Engineering, University of Trier, Germany) – jointly supervised by A. De Luca and B. Robalo (Utrecht, the Netherlands)

05/2019 – present Maria Leousi (M.Sc. student in Medical Imaging, Utrecht University) – jointly supervised by A. De Luca (Utrecht, the Netherlands)

03/2019 – present Saba Ishrat (M.Sc. student in Cognitive Neuroscience, Università degli Studi di Trento) – jointly supervised by J. Jovicich (Università degli Studi di Trento) and A. De Luca (Utrecht, the Netherlands)

02/2019 – present Anouk van Rijn (M.Sc. student in Biomedical Technology, TU/e) – jointly supervised by A. De Luca (Utrecht, the Netherlands)

02/2019 – present João Gabriel (M.Sc. student in Biomedical Engineering and Biophysics, University of Lisbon) – jointly supervised by A. De Luca (Utrecht, the Netherlands)

02/2019 – present Iris Vos (M.Sc. student in Biomedical Technology, TU/e) – jointly supervised by A. De Luca (Utrecht, the Netherlands)

09/2018 – 02/2019 Rosina Derks (M.Sc. student in Medical Imaging, Utrecht University) – jointly supervised by M. Froeling (Utrecht, the Netherlands)

11/2017 – 07/2018 Victor Bodiut (M.Sc. student in Brain and Cognitive Sciences, UvA) – jointly supervised by S. David (Utrecht, the Netherlands)

07/2016 – 06/2017 Jari Gool (M.Sc. student in Life Sciences) – jointly supervised by Y. van der Werf (VUMC, the Netherlands)

02/2017 – 06/2017 Victor Bodiut (M.Sc. student in Brain and Cognitive Sciences, UvA) – jointly supervised by S. David (Utrecht, the Netherlands)

06/2016 – 05/2017 Matthijs Konijn (M.Sc. student in Life Sciences) – jointly supervised by H. Mesri and A. Heemskerk (Utrecht, the Netherlands)

06/2016 – 02/2017 Marc van den Heerik (M.Sc. student in Neuroscience and Cognition) – jointly supervised by T. Nijboer (Utrecht, the Netherlands)

10/2016 – 12/2016 Viljami Sairanen (M.Sc. student in Medical Physics) – jointly supervised by S. Savolainen (HUS Medical Imaging Center, University of Helsinki, Finland)

07/2016 – 11/2016 Bryce Geeraert (M.Sc. student in Biomedical Engineering) – jointly supervised by C. Lebel (University of Calgary, Canada)

10/2014 – 07/2015 Richard van den Elzen (M.Sc. student in Medical Natural Sciences) – jointly supervised by C. Tax (Utrecht, the Netherlands)

03/2012 – 08/2013 Wieke Haakma (M.Sc. student in Technical Medicine) – jointly supervised by P. Dik (Utrecht, the Netherlands)

09/2012 – 04/2013 Wyke Huizinga (M.Sc. student in Physics) – jointly supervised by S. Klein (Rotterdam, the Netherlands)

12/2011 – 02/2012 Ruud Schreurs (M.Sc. student in Technical Medicine) – jointly supervised by P. Dik (Utrecht, the Netherlands)

10/2010 – 08/2011 Pasquelle van der Jagt (M.Sc. student in Technical Medicine) – jointly supervised by P. Dik (Utrecht, the Netherlands)

08/2010 – 06/2011 Pascal Ramaekers (M.Sc. student in Physics), Utrecht, the Netherlands – jointly supervised by M. Viergever

07/2010 – 06/2011 Remco Krijthe (M.Sc. student in Physics), Utrecht, the Netherlands – jointly supervised by M. Viergever

03/2011 – 04/2011 Hanne Kause (M.Sc. student in Biomedical Image Sciences), Utrecht, the Netherlands – jointly supervised by M. van Stralen

08/2010 – 05/2011 Saskia Aarnink (M.Sc. student in Clinical Physics), Utrecht, the Netherlands – jointly supervised by S. Vos

08/2009 – 01/2010 Daan Broekhuizen (M.Sc. student in Physics), Utrecht, the Netherlands – jointly supervised by M. Viergever

08/2009 – 11/2009 Yohan de Klein (M.Sc. student in Physics), Utrecht, the Netherlands) – jointly supervised by M. Viergever

05/2007 – 07/2007 Fahimeh Darki (visiting M.Sc. student in Medical Physics) – jointly supervised by D. Jones

10/2005 – 06/2006 Ben Jeurissen (M.Sc. student in Biomedical Imaging thesis) – jointly supervised by J. Sijbers

10/2005 – 06/2006 Evelyne Neels (M.Sc. student in Computer Science) – jointly supervised by J. Sijbers

10/2004 – 06/2005 Björn Geens (M.Sc. student in Physics) – jointly supervised by J. Sijbers

10/2004 – 06/2005 Yves Fierens (M.Sc. student in Physics) – jointly supervised by J. Sijbers

10/2004 – 06/2005 Wim Van Hecke (M.Sc. student in Biomedical Imaging) – jointly supervised by J. Sijbers and J. Van Goethem

TEACHING ACTIVITIES

12/2017 – present University course “Diffusion MRI” (lectures & lab practicals), 1st year M.Sc. in Medical Imaging (~10 students, 30h), joint lecturer: K. Gilhuijs, UMC Utrecht

05/2017 – present University course “Image Processing” (lectures & lab practicals), 1st year M.Sc. in Medical Imaging (~15 students, 80h), joint lecturer: K. Gilhuijs, UMC Utrecht

10/2016 – present Guest lecturer for the Neurophysiology course, which is part of the Research Master Brain and Cognitive Sciences (~25 students, 2h) from the UvA.

01/2007 – present Educational talks at the annual ISMRM/SMRT meetings (2007, 2009, 2011 – 2013, 2015 – 2017) and the ESMRMB “School of MRI” and “Hands-on MRI” courses (2008, 2009, 2012–2017).

11/2010 – 02/2016 University course “Image Processing I” (lectures & lab practicals), 1st year M.Sc. in Biomedical Image Sciences (~15 students, 80h), joint lecturer: K. Vincken, UMC Utrecht

01/2004 – 06/2004 University course “Statistics in Biomedical Applications” (lab practicals), 1st year M.Sc. in Biomedical Sciences (~50 students, 30h), lecturer: F. Wuyts, University of Antwerp

10/2003 – 12/2003 University course “Biomedical Informatics and Statistics” (lab practicals), 1st year M.Sc. in Pharmaceutical Sciences & 2nd year B.Sc. in Veterinary Medicine (~70 students, 15h), lecturer: F. Wuyts, University of Antwerp

01/2003 – 06/2003 University course “Biometrics” (lab practicals), 1st year B.Sc. in Biomedical Sciences (~140 students, 30h), lecturer: F. Wuyts, University of Antwerp

10/2002 – 12/2002 University course “General Physics” (lab practicals), 1st year B.Sc. in Biomedical Sciences (~140 students, 16h), lecturer: E. Raman, University of Antwerp

PROJECT GRANTS – SCHOLARSHIPS – PRIZES

Grants (principal investigator / applicant)

1) Funding agency: NWO – VIDI, The Netherlands
   Title: *Diffusion MRI Analysis beyond Connectography*
   Duration: 2014 – 2019
   Amount: 800 k€

2) Funding agency: NWO – Free Competition (EW), The Netherlands
   Title: *Constrained voxel based analysis for diffusion tensor imaging*
   Duration: 2012 – 2015
   Amount: 211 k€

3) Funding agency: IWT, Belgium
   Title: *Modeling and processing of diffusion tensor magnetic resonance images for improved analysis of brain connectivity*
   Duration: 2003 – 2006
   Amount: 190 k€

Grants (co-investigator / co-applicant)

4) Funding agency: Horizon 2020, Marie Skłodowska-Curie Innovative Training Networks
   Title: "TRABIT" (Translational Brain Imaging Training Network)
   Duration: 2018 – 2022
   Amount: 3.9 m€

	PI:	Koen Van Leemput, Department of Applied Mathematics and Computer Science, Technical University Denmark, Lyngby, Denmark
5)	Funding agency:	ERA-NET (NEURON) – NWO, The Netherlands
	Title:	"RepImpact" (Repetitive Subconcussive Head Impacts - Brain Alterations and Clinical Consequences)
	Duration:	2017 – 2019
	Amount:	1.5 m€
	PI:	Inga Koerte, Klinik und Poliklinik für Kinder- und Jugendpsychiatrie, Psychosomatik und Psychotherapie – Klinikum der Universität München, Germany
6)	Funding agency:	R01 – NIH (National Institutes of Health), USA
	Title:	*MRI Toolbox for Rodent Brain Microstructure Imaging*
	Duration:	2016 – 2019
	Amount:	1.8 m$
	PI:	Mark Does, Center for Small Animal Imaging, Institute of Imaging Science, Vanderbilt University, Nashville, TN, USA
7)	Funding agency:	HRB (Health Research Board), Ireland
	Title:	*Early life stress and the etiopathogenesis of auditory hallucinations in young people*
	Duration:	2016 – 2018
	Amount:	329 k€
	PI:	Mary Cannon, Department of Psychiatry, RCSI Education and Research Center, Beaumont Hospital, Dublin, Ireland
8)	Funding agency:	FWO, Belgium
	Title:	*Delineation of effector-specific representations in motor cortex and their structural/functional connectivity*
	Duration:	2015 – 2018
	Amount:	136 k€
	PI:	Jolien Gooijers, Motor Control Laboratory, KU Leuven, Belgium
9)	Funding agency:	FP7, European Commission (collaborative project)
	Title:	*EPISTOP: Long-term, prospective study evaluating clinical and molecular biomarkers of epileptogenesis in a genetic model of epilepsy – tuberous sclerosis complex*
	Duration:	2013 – 2018
	Amount:	632 k€ (total across 14 participants = 9.5 m€)
	PI:	Floor Jansen (project coordinator: Sergiusz Jozwiak), UMC Utrecht, the Netherlands
10)	Funding agency:	Canadian Institutes of Health Research
	Title:	*Integrated Software for the Assessment of Diffusion Tensor Imaging of Brain Wiring in Alzheimer's Disease and Dementia*
	Duration:	2013 – 2016
	Amount:	219 k$
	PI:	Christian Beaulieu, Department of Biomedical Engineering, University of Alberta, Edmonton, Canada
11)	Funding agency:	The Wellcome Trust, United Kingdom
	Title:	*Tractometry*
	Duration:	2012 – 2019
	Amount:	1.7 mGBP
	PI:	Derek Jones, CUBRIC, Cardiff University, Wales, UK
12)	Funding agency:	Health Research Board (HRB), Ireland
	Title:	*The anatomy of Risk: A population-based imaging study of adolescents*
	Duration:	2012 – 2015

Amount: 301 k€
PI: Mary Cannon, Department of Psychiatry, RCSI Education and Research Center, Beaumont Hospital, Dublin, Ireland

13) Funding agency: FWO, Belgium
Title: *Aging and executive control mechanisms: neural structure-function relations with respect to inhibitory control of bimanual tasks*
Duration: 2010 – 2013
Amount: 433 k€
PI: Stephan Swinnen, Motor Control Laboratory, KU Leuven, Belgium

14) Funding agency: FWO, Belgium
Title: *Quantitative extraction of standard values from DW MR images of the premature brain*
Duration: 2010 – 2013
Amount: 540 k€
PI: Wilfried Philips, Telecommunications and Information Processing, Ghent University, Belgium

15) Funding agency: FWO, Belgium
Title: *Diagnostics and recovery of neuromotor function following a traffic accident in children: study of neural structure-function relations with respect to movement coordination*
Duration: 2010 – 2013
Amount: 428 k€
PI: Stephan Swinnen, Motor Control Laboratory, KU Leuven, Belgium

16) Funding agency: NARSAD Independent Investigator Award, USA
Title: *White matter microstructural impairments as a bipolar disorder endophenotype – a DTI tractography study*
Duration: 2010 – 2012
Amount: 300 k€
PI: Colm McDonald, Department of Psychiatry, National University of Ireland, Galway, Ireland

17) Funding agency: IWT, Belgium
Title: *Improved processing of DTI magnetic resonance images for coregistration, atlas construction, and voxel based analysis*
Duration: 2007 – 2010
Amount: 195 k€
PI: Wim Van Hecke, Department of Physics, University of Antwerp, Belgium

Prizes, awards and honors

1) "Doctoratus Honoris Causa (Ph.D.h.c)", honorary doctorate from H.S. Skovoroda Kharkiv National Pedagogical University, (Ukraine), 2019

2) "Magna Cum Laude Merit Award" for the work "Estimation of multiple fiber orientation distributions (mFODs) from diffusion MRI data using spherical deconvolution" presented at the Annual ISMRM Meeting – Montreal, Canada, 2019 (first author: A. De Luca)

3) "Magna Cum Laude Merit Award" for the work "Investigation of the dependence of free water and pseudo-diffusion MRI estimates on the cardiac cycle" presented at the Annual ISMRM Meeting – Montreal, Canada, 2019 (first author: A. De Luca)

4) "Royal Academy of Medicine in Ireland Research Award" for the the work, "The Arcuate Fasciculus and Verbal Deficits in Psychosis", published in Translational Neuroscience, 2018 (first author: J. Kenney)

5) "Doctoratus Honoris Causa (Ph.D.h.c.)", honorary doctorate from Universidad del Chubut (Argentina), 2017

6) "Outstanding Teacher Award" for ISMRM Educational Course "Connectivity: Structure & Function", 25th Annual ISMRM Meeting – Honolulu, Hawaii, USA, 2017

7) "Distinguished Reviewer Award" for the distinguished service to the Society during 2015-2016 as a reviewer for Magnetic Resonance in Medicine, 2017

8) "Winner of the 2016 USERN (Universal Scientific Education and Research Network) Prize in Medical Sciences", *International prize awarded annually to researchers less than 40 years of age for their novel advancement and achievements in scientific education and research (prize = 10,000$). http://usern.tums.ac.ir*

9) "Distinguished Reviewer Award" for the distinguished service to the Society during 2014-2015 as a reviewer for Magnetic Resonance in Medicine, 2016

10) "Magna Cum Laude Merit Award" for the work "Post-Mortem Diffusion MRI of Cervical Spine and Nerves Roots" presented at the Annual ISMRM Meeting – Singapore, 2016 (first author: W. Haakma)

11) "Magna Cum Laude Merit Award" for the work "Mapping the Brain's "Sheet Probability Index" (SPI) with Diffusion MRI: Sheet Happens?!" presented at the Annual ISMRM Meeting – Singapore, 2016 (first author: C.M.W. Tax)

12) "Winner Brain Art Competition" in the category "Best Video Illustration of the Brain" with "The Trumpeting Brain", Organization of Human Brain Mapping (The Neuro Bureau), 2015

13) "Young Investigator Award" for the work "Predicting school age cognitive capacities from the neonatal connectome in preterm born children" presented at the 1st Congress of joint European Neonatal Societies meeting, Budapest, 2015 (first author: K. Keunen)

14) "Distinguished Reviewer Award" for the distinguished service to the Society during 2013-2014 as a reviewer for Magnetic Resonance in Medicine, 2015

15) "Best Research Contribution in Bio-imaging" with the work: "Towards Quantification of the Brain's Sheet Structure in Diffusion MRI Data" presented at the International BASP Frontiers workshop – Villars-sur-Ollon, Switzerland, 2015 (first author: C.M.W. Tax)

16) "Human Brain Mapping Editor's Choice Award for papers published in 2013" with the article: "Investigating the prevalence of complex fiber configurations in white matter tissue with diffusion MRI" (HBM-11-0658), 2014 (first author: B. Jeurissen)

17) "Summa Cum Laude Merit Award" for the work "Diffusion Tensor MRI and Tractography of the Sacral Plexus in Children with Spina Bifida" presented at the Joint Annual ISMRM-ESMRMB meeting – Milan, Italy, 2014 (first author: W. Haakma)

18) "Magna Cum Laude Merit Award" for the work "Towards Quantification of the Brain's Sheet Structure: Evaluation of the Discrete Lie Bracket" presented at the Joint Annual ISMRM-ESMRMB meeting – Milan, Italy, 2014 (first author: C.M.W. Tax)

19) "Magna Cum Laude Merit Award" for the work "In Vivo Investigations of Accuracy and Precision of Fiber Orientations in Crossing Fibers in Spherical Deconvolution-Based HARDI Methods" presented at the Joint Annual ISMRM-ESMRMB meeting – Milan, Italy, 2014 (first author: S.B. Vos)

20) "Magna Cum Laude Merit Award" for the work "Microstructural Development of the Corpus Callosum 'catches Up' Between Term and 7 Years in Children Born <30 Weeks' Gestation or <1250 G" presented at the Joint Annual ISMRM-ESMRMB meeting – Milan, Italy, 2014 (first author: D.K. Thompson)

21) "Outstanding Teacher Award" for ISMRM Sunrise course "From Pulse Sequence to Clinical Applications in the Brain: Diffusion Tensor Imaging", 21st Annual ISMRM Meeting – Salt Lake City, USA, 2013

22) "Magna Cum Laude Merit Award" for the work "REKINDLE: Robust Extraction of Kurtosis INDices with Linear Estimation" presented at the 21st Annual ISMRM meeting – Salt Lake City, USA, 2013 (first author: C.M.W. Tax)

23) "Summa Cum Laude Merit Award" for the work "HARDI and fiber tractography at 1 mm isotropic resolution" presented at the 21st Annual ISMRM meeting – Salt Lake City, USA, 2013 (first author: S.B. Vos)

24) "Magna Cum Laude Merit Award" for the work "A Critical Consideration on the Absence of Significance and the Impact of Structure Size When Interpreting DTI and DKI Results" presented at the 21st Annual ISMRM meeting – Salt Lake City, USA, 2013 (first author: F. Szczepankiewicz)

25) "1st Prize Art of Neuroscience 2013" in category "Movies" (http://aon.nin.knaw.nl, see movie here: http://youtu.be/agNp0QKv3f8) – in collaboration with Sjoerd Vos, 2013 (*prize: tablet computer*)

26) "Outstanding Teacher Award" for ISMRM Sunrise course "Absolute Beginner's Guide to Neuroimaging Methods", 20th Annual ISMRM Meeting – Melbourne, Australia, 2012

27) "1st Prize Best Research Image" at the 1st Congress on Muscle Diseases, organized by the "Prinses Beatrix spier fonds" and "Spierziekten Nederland", Veldhoven, The Netherlands (*prize was a digital single-lens reflex camera*), 2012

28) "2nd Prize Innovative Research" for the work "Diffusion tensor MRI and tractography of the sacral plexus" presented at the 23rd Annual Meeting of the European Society for Paediatric Urology, Zurich, Switzerland, 2012 (first author: P. van der Jagt)

29) "Young Investigator Award" for the work "Longitudinal assessment of chemotherapy induced structural changes in cerebral white matter and its correlation with impaired cognitive functioning in breast cancer patients" presented at the International Cognition and Cancer Task Force Conference, 2012 (first author: S. Deprez)

30) "Best Poster Award" for the work "Tract Coherence Imaging (TCI): Quantifying the intra-voxel fiber tract heterogeneity", presented at the WM study group meeting at the 20th Annual ISMRM meeting – Melbourne, Australia, 2012 (first author: S.B. Vos)

31) "Magna Cum Laude Merit Award" for the work "Uncertainty of quantitative T1 mapping in healthy volunteers at 7.0 Tesla" presented at the 20th Annual ISMRM meeting – Melbourne, Australia, 2012 (first author: D. Polders)

32) "Summa Cum Laude Merit Award" for the work "HARDI-based methods for fiber orientation estimation" presented at the 20th Annual ISMRM meeting – Melbourne, Australia, 2012 (first author: B. Jeurissen)

33) "Summa Cum Laude Merit Award" for the work "White matter microstructural changes in bipolar disorder: A HARDI CSD study" presented at the 20th Annual ISMRM meeting – Melbourne, Australia, 2012 (first author: L. Emsell)

34) "President's Prize for Best Translational Paper" (from Basic Science or Theory through development to clinical application) for the work "Diffusion tensor MRI and tractography of the sacral plexus" presented at the 55th Annual Scientific Meeting of the Society for Research into Hydrocephalus and Spina Bifida (SRHSB) – Nottingham, UK, 2011 (first author: P. van der Jagt)

35) "Top-Citation Award" for the publication "Microstructural maturation of the human brain from childhood to adulthood" (Lebel C. et al, NeuroImage 40(3):1044-55, 2008), which is the most cited NeuroImage article from the 956 articles published that year, 2010

36) "2nd Prize for Best Diffusion MRI Modeling and Tractography Algorithm" for the work "Fiber Tracking on the 'Fiber Cup Phantom' using Constrained Spherical Deconvolution", presented at the MICCAI Meeting – London, UK, 2009 (first author: B. Jeurissen)

37) "Travel Award" Bristol-Cardiff Neuroscience Collaboration (BCNC), Psychopharmacology Unit – CUBRIC, Young Neuroscientists' Day, Bristol, 1000 GBP, 2008

38) "1st Prize European Brain Expert" for the work "To Rotate B or not to Rotate B?: The importance of

B-matrix reorientation during realignment of diffusion tensor MRI data" submitted to the 2nd European Brain Expert Neuroscience Contest (*prize: 5.000 EUR*), 2008

39) "Educational ISMRM Stipend Award", 16th ISMRM Meeting, Toronto, Canada, 1100 USD, 2008

40) "Brain Travel Award", joint annual Meeting ESMRMB-ISMRM, Berlin, Germany, (543 GBP), 2007

41) "3rd Prize Magnetic Art Award" for the work "Dead Presidents" presented at the "Art 'N' Artifacts" exhibit at the joint annual Meeting ESMRMB-ISMRM – Berlin, Germany (*prize: iPod*), 2007

42) "Educational Stipend Award", joint Annual Meeting ESMRMB-ISMRM, Berlin, Germany, (250 USD), 2007

43) "Travel Award" from the Royal Society (UK's National Academy of Sciences), joint annual Meeting ESMRMB-ISMRM, Berlin, Germany, 497 GBP, 2007

44) "Educational Stipend Award", 14th Annual ISMRM Meeting, Seattle, USA, (760 USD), 2006

45) "3rd Prize Research Focus Poster" for the work "A graphical toolbox for exploratory diffusion tensor imaging and fiber tractography" presented at the 14th Annual SMRT Meeting – Miami, USA, 2005

46) "Cum Laude Award" for the work "In vivo visualization of the neuroanatomy and brain connectivity of starling brain through diffusion tensor imaging" presented at the 21st Annual Scientific ESMRMB Meeting – Copenhagen, Denmark, 2004 (first author: M. Verhoye)

47) "Young Investigator Award: Belgian Hospital Physicist of the Year", announced at the 20th Annual Symposium of the Belgian Hospital Physicists Association – Brussels, Belgium (*prize: 500 EUR*), 2004

48) "Cover images" selected for (i) the handbook "Clinical Neuroanatomy and Neuroscience", M.J.T. FitzGerald, G. Gruener, and E. Mtui (Eds.), http://amzn.com/0702037389), "The Psychologist" (April Issue, 2015); Biological Psychiatry: Cognitive Neuroscience and Neuroimaging (May Issue, 2016) and (ii) nine articles that I (co)authored: Van Hecke et al, NeuroImage 2008; Lebel et al, NeuroImage 2008; Leemans et al, MRM 2009; Polders et al, JMRI 2011; Deprez et al, HBM 2011; Deprez et al, Brain Imaging Behav 2013; Reijmer et al, Neurology 2013; Veraart et al, NeuroImage 2013; Vos et al, Hear Res 2015; van Veluw et al, Neurology 2019.

INVITED PRESENTATIONS AT CONFERENCES – SYMPOSIA – WORKSHOPS

International

1) *Considerations for computing connectomes with diffusion MRI*
Symposium on "Function & structure of brain connectoms", Tel Aviv, Israel, 2019

2) *Investigating neurodegeneration with diffusion MRI*
Symposium of the "Taiwan Dementia Society", Taipei, Taiwan, 2019

3) *Practical considerations for studying human brain connectivity with diffusion MRI*
X Congresso Internacional de Atualização em Neurociências, São Paulo, Brazil, 2019

4) *Imaging structures and connections of the brain: From methods to biomedical applications*
Brain connectivity workshop: "Structures and connections of the brain. Practical applications in medicine, rehabilitation, sports, and pedagogy", Kharkov, Ukraine, 2019

5) *Methodological considerations on analyzing diffusion MRI data*
Educational Course at the annual OHBM meeting, *"MR Diffusion Imaging: From Theory to Applications"*, Rome, Italy, 2019

6) *Identifying and correcting physiological and systematic artifacts in diffusion MRI*
Educational Course at the annual OHBM meeting, *"Taking Control Of Your Neuroimaging Data: Understanding Artefacts And Quantifying Quality"*, Rome, Italy, 2019

7) *Challenges of studying neonatal connectivity with diffusion MRI*

4th International Symposium on “MRI of the neonatal brain: from basics to bedside”, Wilhelmina Children’s Hospital, UMC Utrecht, Utrecht, The Netherlands, 2019

8) *DTI Processing: Pitfalls in Clinical Applications*
ISMRM Virtual Meeting of the Diffusion Study Group, “Diffusion Imaging and Fiber Tractography: Tips & Tricks for Clinical Use”, 2018

9) *Fiber Tracking with diffusion MRI*
Symposium “Diffusion imaging: From basics to the neurological clinic”, Brussels, Belgium, 2018

10) *Could not accept invitation due to travel ban (VISA was not approved due to previous visit to Iran)*
BIDS (Brain Imaging Data Structure) Workshop, Stanford, USA, 2018

11) *Quality assessment and diffusion MRI data preprocessing: Getting ready for analysis*
ISMRM Workshop on Advanced Neuro MR: Best Practices for Technical Implementation, Seoul, South Korea, 2018

12) *Diffusion MRI analysis methods*
ISMRM Workshop on Advanced Neuro MR: Best Practices for Technical Implementation, Seoul, South Korea, 2018

13) *Principles of Magnetic Resonance: From MRI to DTI to DKI to SDI*
NeuroChubut Meeting – Puerto Madryn, Chubut Province, Patagonia, Argentina, 2017

14) *Quality assessment and correction methods for diffusion MRI data*
Computational Brain Connectivity Mapping – Winter School Workshop 2017, Juan-les-Pins, France, 2017

15) *Practicalities and pitfalls in diffusion MRI*
Philips Australia and New Zealand User Group Meeting – Sydney, Australia, 2017

16) *Advances in diffusion MRI: Fixels, connectomes & sheets*
Keynote Lectures at 12th Annual meeting of the Australia & New Zealand (ANZ) Chapter of the SMRT – Sydney, Australia, 2017

17) *Challenges for clinical diffusion MRI*
Keynote Lectures at 12th Annual meeting of the Australia & New Zealand (ANZ) Chapter of the SMRT – Sydney, Australia, 2017

18) *Introduction to Diffusion MRI: Key concepts and applications*
First Latin-American ExploreDTI Workshop, Sao Paolo, Brazil, 2017

19) *Data QA and processing tools for diffusion MRI*
First Latin-American ExploreDTI Workshop, Sao Paolo, Brazil, 2017

20) *Diffusion MRI analysis: Ins and outs*
First Latin-American ExploreDTI Workshop, Sao Paolo, Brazil, 2017

21) *Methodological considerations on processing and analyzing diffusion MRI data*
Educational Course at the OHBM Meeting: “MR Diffusion Imaging: Getting Your Measures Right”, Vancouver, Canada, 2017

22) *Processing & analysis of diffusion MRI data*
ESMRMB School of MRI: “Clinical fMRI & DTI – Theory and Practice”, Porto, Portugal, 2017

23) *Measuring connectivity with diffusion MRI*
“Connectivity: Structure & Function” – Weekend Educational Session at the 25th Annual Meeting of the ISMRM, Honolulu, USA, 2017

24) *Acerca de pre-procesamiento datos en ExploreDTI*
Symposium “Datos de difusión aplicados a Resonancia Magnética: Impacto en la Neurociencia Cognitiva”, Facultad de Psicología, Universidad Nacional de Córdoba, Córdoba, Argentina, 2016

25) *Visualización de data IRM de diffusión*

Symposium “Datos de difusión aplicados a Resonancia Magnética: Impacto en la Neurociencia Cognitiva”, Facultad de Psicología, Universidad Nacional de Córdoba, Córdoba, Argentina, 2016

26) *IRM de difusión: De tensores a armónicos esféricos*
Symposium “Datos de difusión aplicados a Resonancia Magnética: Impacto en la Neurociencia Cognitiva”, Facultad de Psicología, Universidad Nacional de Córdoba, Córdoba, Argentina, 2016

27) *An interdisciplinary insight into the human brain: Advances in the third millennium*
1st Universal Scientific Education Research Network (USERN) Congress, Tehran University of Medical Science, Tehran, Iran, 2016

28) *Analysis Pipelines for Diffusion MRI Data: From Voxels to Connectomes*
ISMRM Workshop: “Breaking the Barriers of Diffusion MRI”, Lisbon, Portugal, 2016

29) *Practicalities and Challenges in diffusion MRI*
International Workshop on Geometry, PDE’s and Lie Groups in Image Analysis, TU/e – Eindhoven, The Netherlands, 2016

30) *Diffusion Tensor Imaging: The basics*
Workshop “Neuroimaging of Cerebrovascular Disease” at 8th International Meeting of the Society of Vascular Behavioural and Cognitive Disorders (VasCog), VU Amsterdam, the Netherlands, 2016

31) *Investigating the brain’s white matter architecture with diffusion MRI*
The Interdisciplinary Center for Neurosciences (IZN) – University of Heidelberg (Retreat at Kloster Schöntal), Germany, 2016

32) *Methodological considerations on analyzing diffusion MRI data*
Educational Course at the OHBM Meeting: “MR Diffusion Imaging: Getting Your Measures Right”, Geneva, Switzerland, 2016

33) *Analysis of diffusion MRI data*
ESMRMB School of MRI: “Clinical fMRI & DTI – Theory and Practice”, Barcelona, Spain, 2016

34) *Diffusion MRI of the Brain: Applications in clinical research*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Medical Imaging Center, Imam Khomeini Hospital, Tehran, Iran, 2016

35) *Diffusion MRI: Key concepts*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Medical Imaging Center, Imam Khomeini Hospital, Tehran, Iran, 2016

36) *Quality assurance and preprocessing of Diffusion-Weighted MRI Data*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Medical Imaging Center, Imam Khomeini Hospital, Tehran, Iran, 2016

37) *Advanced Methods for fiber tractography*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Medical Imaging Center, Imam Khomeini Hospital, Tehran, Iran, 2016

38) *Diffusion MRI Analysis: Methodological considerations*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Medical Imaging Center, Imam Khomeini Hospital, Tehran, Iran, 2016

39) *Diffusion Imaging: Form the “Oops” to the “Aha”*
“Diffusion & Perfusion: What do you know?” – Educational Session at the 24th Annual Meeting of the ISMRM, Singapore, 2016

40) *Preprocessing of diffusion MRI data: Boring but important*
HWK Workshop “Diffusion tensor imaging and beyond: Concepts and practical guidelines”, Institute for Advanced Study, Delmenhorst, Germany, 2016

41) *Analyzing diffusion MRI: From voxels to networks*

HWK Workshop “Diffusion tensor imaging and beyond: Concepts and practical guidelines”, Institute for Advanced Study, Delmenhorst, Germany, 2016

42) *No function without structure: Challenges in diffusion MRI and tractography for clinical research*
Educational Course in Session: “E³ - ECR Academies: Neuroradiology: from Morphology to Function” at the European Congress of Radiology (ECR), Vienna, Austria, 2016

43) *Structural brain connectivity*
Educational Course at the ESMRMB Meeting: “Brain Connectivity”, Edinburgh, Scotland, 2015

44) *Processing and Quality Control of DTI data*
Educational Course at the OHBM Meeting: “MR Diffusion Imaging: Getting Your Measures Right”, Honolulu, Hawaii, USA, 2015

45) *Brain network applications in basic neuroscience*
“Brain Networks” – Sunrise Educational Course at the 23rd Annual Meeting of the ISMRM, Toronto, Canada, 2015

46) *DTI Processing: Pitfalls in Clinical Applications*
“Advanced Neuro” – Educational Course at the 24th Annual Meeting of the SMRT, Toronto, Canada, 2015

47) *Data analysis for diffusion MRI*
ESMRMB School of MRI: Clinical fMRI & DTI – Theory and Practice, Basel, Switzerland, 2015

48) *General Introduction and Overview of Diffusion MRI*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Tehran, Iran, 2015

49) *Clinical Research Applications of Brain Diffusion MRI*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Tehran, Iran, 2015

50) *Quality Assurance and Preprocessing of Diffusion-Weighted MRI Data*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Tehran, Iran, 2015

51) *Fiber Tractography: Advanced Methods*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Tehran, Iran, 2015

52) *Strategies and Pitfalls of Diffusion MRI Analysis*
Advanced Diffusion MRI and Data Analysis Workshop, Tehran University of Medical Sciences, Tehran, Iran, 2015

53) *Diffusion MRI: From dream to nightmare*
IDIG workshop, National University of Ireland, Galway, Ireland, 2014

54) *The do’s and don’ts of diffusion MRI*
1st International Summer School of Connectomics, Bordeaux, France, 2014

55) *Data analysis for diffusion MRI*
ESMRMB School of MRI: Clinical fMRI & DTI – Theory and Practice, IoP, London, UK, 2014

56) *Processing and Quality Control of DTI data*
Educational Course at the OHBM Meeting: “MR Diffusion Imaging: Getting Your Measures Right”, Hamburg, Germany, 2014

57) *Do’s and don’ts of diffusion pre-processing and quality control*
Workshop “Do’s and don’ts in diffusion MRI” (theory), Réseau de Bio-Imagerie du Québec, CRIUGM, Montreal, Canada, 2014

58) *ExploreDTI*
Workshop “Do’s and don’ts in diffusion MRI” (hands-on), Réseau de Bio-Imagerie du Québec,

Université de Sherbrooke, Département d'informatique, Canada, 2014

59) *DWI: basic concepts, applications, and limitations*
7th Benelux Meeting of The Section for Magnetic Resonance Technologists (SMRT) of the International Society for Magnetic Resonance in Medicine (ISMRM), University Hospital Brussels, Brussels, Belgium (2014)

60) *DTI analysis approaches from voxels to graph theory*
White Matter Symposium, Trondheim, St Olavs Hospital, Trondheim, Norway, 2014

61) *Processing and analysis of diffusion tensor imaging data*
Seminar at Signal Processing Group, Dept. of Signals and Systems, Chalmers University of Technology, Gothenburg, Sweden, 2014

62) *Diffusion Tensor Imaging*
3rd International Symposium on "MRI of the neonatal brain: from basics to bedside", Wilhelmina Children's Hospital, UMC Utrecht, Utrecht, The Netherlands, 2013

63) *Diffusion Image Analysis Strategies & Limitations*
ISMRM Diffusion Workshop "Diffusion as a Probe of Neural Tissue Microstructure", Podstrana, Croatia, 2013

64) *Processing and analyzing diffusion (tensor) imaging data*
Symposium "Diffusion Tensor Imaging", National Doctoral Programme of Psychology, Institute of Behavioural Sciences, University of Helsinki, Helsinki, Finland, 2013

65) *Guidelines and considerations for fiber tractography*
Symposium "Diffusion Tensor Imaging", National Doctoral Programme of Psychology, Institute of Behavioural Sciences, University of Helsinki, Helsinki, Finland, 2013

66) *Overview of "ExploreDTI"*
Symposium "Diffusion Tensor Imaging", National Doctoral Programme of Psychology, Institute of Behavioural Sciences, University of Helsinki, Helsinki, Finland, 2013

67) *Brain Mafia: it's all about the connections*
Symposium "Functional and Anatomical Connectivity in the Brain", Universidad Nacional Autónoma de México, Querétaro, México, 2013

68) *Methodological considerations for analyzing diffusion MRI data*
UK Diffusion Group Summer Meeting, School of Psychology, Cardiff University, Cardiff, Wales, UK, 2013

69) *Data analysis for diffusion tensor imaging*
ESMRMB School of MRI: Clinical fMRI & DTI – Theory and Practice, Rotterdam, The Netherlands, 2013

70) *Guidelines and critical considerations for clinical diffusion MRI research beyond DTI*
6th Annual Irish Diffusion Imaging Group (IDIG) symposium, Galway University, Galway, Ireland, 2013

71) *Diffusion Tensor Imaging*
From Pulse Sequences to Clinical Application in the Brain – Sunrise Educational Course at the 21st Annual Meeting of the ISMRM, Salt Lake City, Utah, USA, 2013

72) *Data Analysis for Diffusion Tensor MRI*
ESMRMB – Hands-On MRI: fMRI & DTI for Clinical Practice, Paris, France, 2012

73) *Introduction to diffusion MRI and fiber tractography*
Workshop "Structural brain connectivity: Diffusion imaging – State of the art and beyond", Humboldt-Universität zu Berlin, Berlin, Germany, 2012

74) *Quality assessment, preprocessing, and analysis of diffusion MRI data*
Workshop "Structural brain connectivity: Diffusion imaging – State of the art and beyond", Humboldt-Universität zu Berlin, Berlin, Germany, 2012

75) *Introduction to diffusion imaging and different approaches in analyzing DTI data*
Workshop “Learn to do tractography with ExploreDTI”, Dept. of Biomedical Engineering and Computational Science, Helsinki, Finland, 2012

76) *Deterministic vs. probabilistic tractography*
Workshop “Learn to do tractography with ExploreDTI”, Dept. of Biomedical Engineering and Computational Science, Helsinki, Finland, 2012

77) *An introduction to ExploreDTI with a special focus on wild bootstrap tractography*
Workshop “Learn to do tractography with ExploreDTI”, Dept. of Biomedical Engineering and Computational Science, Helsinki, Finland, 2012

78) *Diffusion MRI data Analysis*
ESMRMB School of MRI: Clinical fMRI & DTI – Theory and Practice, Uppsala, Sweden, 2012

79) *Diffusion Basics*
ISMRM Meeting, Sunrise Course "Absolute Beginner's Guide to Neuroimaging Methods", Melbourne, Australia, 2012

80) *The contribution of diffusion MRI to investigating white matter diseases*
Daiichi Sankyo Symposium on Brain White Matter Imaging, Taipei, Taiwan, 2012

81) *Experimental design, artifacts, and confounds in diffusion MRI data*
ISMRM Meeting, Educational course "Diffusion, Perfusion, and the Corresponding Physiology", Montreal, Canada, 2011

82) *Diffusion tensor imaging in behavioural neurology: Where should I start?*
12th Zeelandia Symposium on Behavioral Neuroscience, National Cheng Kung University, Tainan City, Taiwan, 2010

83) *Diffusion tensor imaging (applications, quality issues and future) and speculations about new MR possibilities*
European Neonatal Neuro Experts Meeting (ENNEM): on the future of neonatal brain research in Rotterdam – Erasmus MC Rotterdam, the Netherlands, 2010

84) *Why analyzing diffusion MRI data can be so depressing!*
Workshop Diffusion Tensor Imaging – Trinity College Dublin, Dublin, Ireland, 2010

85) *Tips and tricks for assessing diffusion MR data quality*
Workshop Diffusion MRI of Traumatic Brain Injury, Chicago, USA, 2010

86) *Principles of diffusion tensor MRI and fiber tractography*
Workshop on Non-Invasive Quantitative Molecular Imaging (NIMI), Ghent, Belgium, 2010

87) *Theory and applications of diffusion MRI*
7th IEEE International Symposium on Biomedical Imaging (ISBI), Educational session: “Functional magnetic resonance and diffusion tensor imaging”, Rotterdam, the Netherlands, 2010

88) *Spherical deconvolution based tractography at low b-values: can we deal with 'crossing fibers' in a clinical setting?*
2nd Annual Irish Diffusion Imaging Group (IDIG) symposium, Galway University, Galway, Ireland, 2009

89) *DTI Analysis and post-processing*
ESMRMB Hands-on MRI course in fMRI & DTI, Rotterdam, the Netherlands, 2009

90) *Exploring DTI with ExploreDTI*
ISMRM Meeting, Breakout Session “Diffusion Tensor MRI for the Clinician and the Neuroscientist: From Experimental Design to Data Analysis”, Honolulu, Hawaii, USA, 2009

91) *ExploreDTI for diffusion MRI data analysis*
ESMRMB Hands-on MRI course “Diffusion: from basic Physics to Exploration of Microscopic Structure”, Cardiff University, United Kingdom, 2008

92) *Clustering of tracts*
Joint ISMRM-ESMRMB Meeting, Educational lecture, Berlin, Germany, 2007

93) *End point clustering for diffusion tensor white matter fiber bundle tractography*
IEEE Advanced Concepts for Intelligent Vision Systems (ACIVS), Antwerp, Belgium, 2005

National

1) *DTI of the brain*
14th PhD symposium "In vivo NMR" – UMC Utrecht, Utrecht, The Netherlands, 2017

2) *Diffusion Tensor Imaging of the brain*
13th PhD symposium "In vivo NMR" – AMC Spinoza center, Amsterdam, The Netherlands, 2016

3) *Diffusion Tensor MRI*
Course: "Evidence Based Evaluation of New Imaging Techniques" (PhD Programme Regenerative Medicine) – University Medical Center Utrecht, The Netherlands, 2014, 2015, 2017, 2019

4) *Diffusion MRI: Characterizing tissue properties with random walks*
Keynote lecture at the 9th Research Day of the Division Surgical Specialties – University Medical Center Utrecht, The Netherlands, 2014

5) *Analysis and visualization of multi-parametric MRI data. Application to diffusion MRI*
12th PhD symposium "In vivo NMR" – Biomedical MR Research Group, Department of Radiology and Nuclear Medicine, Radboud University Medical Center, Nijmegen, The Netherlands, 2014

6) *Diffusion tensor imaging: Data quality, processing, and analysis*
AMBER Research Meeting, Erasmus MC, Rotterdam, The Netherlands, 2014

7) *Diffusion MRI as a method to understand our brain*
Symposium of study association "Van der Waals", "How can we beat the human brain?", TU Eindhoven, Eindhoven, The Netherlands, 2013

8) *Analysis and visualization of multi-parametric MRI data. Application to diffusion MRI*
11th PhD symposium "In vivo NMR" – Wageningen University, Lab of Biophysics & Wageningen NMR Centre, the Netherlands, 2012

9) *Analysis and visualization of multi-parametric MRI data. Application to diffusion MRI*
10th PhD symposium "In vivo" NMR – Eindhoven University of Technology, Eindhoven, the Netherlands, 2010

10) *In vivo reconstruction of brain fiber pathways with diffusion tensor MRI*
BME research day 2010 – Of Mice, Men and Molecules, Eindhoven, The Netherlands, 2010

11) *Whole brain studies: methods and applications in neuroimaging*
1st Annual Meeting Young Neuroscientists' Day, Bristol, United Kingdom, 2007

INVITED LECTURES AT OTHER INSTITUTIONS

1) *Processing and analysis for connectomics with diffusion MRI*
Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway, 2019

2) *Investigating brain connections with fiber tractography: Methods and applications*
Faculty of Psychology, University of Social Science and Humanities, Warsaw, Poland, 2019

3) *Unraveling the mysteries of the brain with diffusion MRI*
H.S. Skovoroda Kharkiv National Pedagogical University, Ukraine, 2019

4) *Semi-automated analysis for tumor characterization with diffusion-weighted magnetic resonance imaging (DW-MRI)*
Klinikum Stuttgart - Olgahospital, Stuttgart, Germany, 2019

5) *Diffusion MRI in neuroscientific and clinical research: A potpourri of Methods and Applications*
Department of Biomedical engineering, Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Canada, 2019

6) *Processing and analysis of diffusion MRI data to study brain connectivity*
Spinoza Center for Neuroimaging, Amsterdam, the Netherlands, 2019

7) *Could not accept invitation due to travel ban (VISA was not approved due to previous visit to Iran)*
Neural Plasticity Research Laboratory, Division of Physical Therapy, Center for Rehabilitation Therapy, Emory University School of Medicine, Atlanta, USA, 2018

8) *Connectomics with diffusion MRI: Where physics meets psychology*
Department of Psychology – University of Cordoba, Spain, 2018

9) *Computing brain connections with diffusion MRI*
University of Chubut, Puerto Madryn, Argentina, 2017

10) *Processing and analysis of diffusion MRI data for medical research*
Brain and Mind Center, University of Sydney, Sydney, Australia, 2017

11) *Diffusion MRI of the brain: From voxels to connectomes*
Shiraz University of Medical Sciences, Shiraz, Iran, 2016

12) *Methods and applications of diffusion MRI fiber tractography*
MedTech West, Gothenburg, Sweden, 2016

13) *Processing methodology in diffusion MRI*
Computational Radiology Laboratory (CRL), Boston Children's Hospital, Harvard Medical School, Boston, USA, 2015

14) *Methodological considerations on processing diffusion MRI data*
Laboratory of Mathematics in Imaging (LMI) – Surgical Planning Laboratory (SPL) – Psychiatry Neuroimaging Laboratory (PNL), Brigham and Women's Hospital, Harvard Medical School, Boston, USA, 2015

15) *Processing diffusion MRI: 101*
Department of Neurology, Kaohsiung Chang Gung Memorial Hospital, Niaosong District, Kaohsiung, Taiwan, 2015

16) *The role of diffusion MRI in oncology*
Department of Neurosurgery, Linkou Chang Gung Memorial Hospital, Kuei Shan Hsiang, Taoyuan Hsien, Taiwan, 2015

17) *Analyzing diffusion MRI: 101*
Department of Neurology, Linkou Chang Gung Memorial Hospital, Kuei Shan Hsiang, Taoyuan Hsien, Taiwan, 2015

18) *Processing and analysis of brain diffusion MRI data: Guidelines and critical considerations*
Computational Cognitive Neuroscience Lab – Department of Artificial Intelligence, Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, the Netherlands, 2015

19) *Diffusion tensor imaging and beyond*
Neuroimaging Seminar, Neuroscience Campus Amsterdam, VU University Medical Center, the Netherlands, 2015

20) *Processing and analysis of diffusion MRI data*
Institute of Cancer Research – London University, Royal Marsden Hospital, London, UK, 2015

21) *Processing of diffusion MRI data for analyzing the brain's circuitry*
The Basque Center on Cognition, Brain and Language – Donostia, San Sebastián, Spain, 2015

22) *Connectomics, Connectography, Connectometry*
DRCMR – Hvidovre Hospital, University of Copenhagen, Denmark, 2014

23) *Diffusion MRI: Voxels, Tracts, and Connectomes*
Neurologische Universitätsklinik, BG-Kliniken Bergmannsheil Bochum, Ruhr-Universität Bochum (RUB), Germany, 2014

24) *Diffusion MRI: Basics of processing and analysis with ExploreDTI*
Neural Control of Movement Lab, Department of Health Sciences and Technology, ETH Zürich, Switzerland, 2014

25) *Diffusion MRI based structural brain connectivity: What, how, and why?*
Center of Functionally Integrative Neuroscience, Institute for Clinical Medicine, Aarhus University, Denmark, 2014

26) *The do's and don'ts of processing and analyzing diffusion MRI data*
Center for Biomedical Imaging, New York University School of Medicine, New York, USA, 2014

27) *Processing and analyzing diffusion MRI data: Pitfalls and progress*
Brain Imaging and Analysis Center, Duke University School of Medicine, Durham, North Carolina, USA, 2014

28) *Exploratory investigations of diffusion MRI data with ExploreDTI: The basics*
Yaniv Assaf's Lab, Department of Neurobiology, The George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv, Israel, 2013

29) *Exploratory investigations of diffusion MRI data with ExploreDTI: Advanced methods*
Yaniv Assaf's Lab, Department of Neurobiology, The George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv, Israel, 2013

30) *The ins and outs of analyzing diffusion MRI data*
Department of Rehabilitation Sciences and Physiotherapy, Ghent University, Ghent, Belgium, 2013

31) *Diffusion MRI analyses for clinical studies: guidelines and critical considerations*
Neuroradiology Department, Foundation of the Carlo Besta Neurological Institute, Milan, Italy, 2012

32) *Efficient approaches for spotting artifacts in diffusion MRI data*
German Cancer Research Center, Imaging and Radio-oncology, Quantitative imaging based disease characterization, Heidelberg, Germany, 2012

33) *From diffusion of water molecules to virtual reconstructions of white matter pathways: Introduction to diffusion MRI*
Department of Neurology, Taichung Veterans General Hospital, Taichung, Taiwan, 2012

34) *The basics of diffusion MRI: methods and applications*
Department of Neurology, Zhanghua Christianity Hospital, Zhanghua, Taiwan, 2012

35) *Data quality assessment for diffusion MRI data: Is it worth the efforts?*
Section of neuroradiology, Department of Radiology, Lund University Hospital, Lund, Sweden, 2011

36) *Crossing fibers in diffusion MRI: cutting across the cross-talk!*
Motor Control Laboratory, Group Biomedical Sciences, Leuven University, Leuven, Belgium, 2010

37) *Diffusion MRI: introduction and applications*
Institute of Medical Informatics, Taipei Medical University, Taipei, Taiwan, 2010

38) *Recent advances in diffusion tensor MRI analyses*
Department of Psychiatry, Taipei Medical University, Taipei, Taiwan, 2010

39) *Clinical (research) applications of diffusion tensor imaging*
Department of Neurology, Shin Kong WHS Memorial Hospital, Taipei, Taiwan, 2010

40) *Data quality considerations for diffusion MRI analyses and consequences for quantitative studies*
Institute of Neuroscience & Radiological Science, National Yang-Ming University, Taipei, Taiwan,

2010

41) *A mishmash of processing issues for diffusion (tensor) MRI data*
Danish Centre for Magnetic resonance, Hvidovre Hospital, University of Copenhagen, Denmark, 2010

42) *High angular resolution diffusion MRI with spherical deconvolution modeling: Clinically feasible?*
BIOMIM - Biomedical Image Analysis, Department of Biomedical Engineering, TU Eindhoven, the Netherlands, 2010

43) *Image processing for Diffusion Tensor MRI (DTI) and Fiber Tractography: Improving the reliability of quantitative analyses*
Philips Healthcare - Advanced Concept Development, MRI - Best, the Netherlands, 2009

44) *Tips and tricks for analyzing diffusion MR data: what we can and can't do in clinical applications*
Department of Neurology, Shin Kong Wu Ho Su Memorial Hospital, Taipei, Taiwan, 2009

45) *An introduction to the methods and applications of diffusion tensor imaging*
Institute of Medical Informatics, Taipei Medical University, Taipei, Taiwan, 2009

46) *A potpourri of diffusion MRI*
Vision Lab, Department of Physics, University of Antwerp, Antwerp, Belgium, 2009

47) *ExploreDTI as a toolbox for processing, analyzing, and visualizing diffusion data*
Clinical Neuroimaging Laboratory, Department of Psychiatry, National University of Ireland, Galway, Ireland, 2009

48) *Image Processing for Diffusion Tensor Magnetic Resonance Imaging: Is it just making pretty pictures?*
Medical Imaging Center, Gasthuisberg, UZ Leuven, Leuven Belgium, 2008

49) *Diffusion Tensor Magnetic Resonance Imaging: Methods and Applications*
Motor Control Laboratory, Group Biomedical Sciences, Leuven University, Leuven, Belgium, 2008

50) *A model based approach for voxelwise analysis of multi-subject diffusion tensor MR data*
CUBRIC, School of Psychology, Cardiff University, Cardiff, Wales, United Kingdom, 2007

51) *A framework for analyzing a large cohort of DTI data sets for a white matter development study*
The in vivo NMR centre, Department of Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada, 2005

52) *White matter fiber bundle coregistration for diffusion tensor tractography*
BioMIM, TU/e – Dept. of Biomedical Engineering Eindhoven, Eindhoven, the Netherlands, 2005

INTERNAL EDUCATIONAL LECTURES

1) *Diffusion MRI: From random walks to brain connectomes*
Course for MRI Technologists, Imaging Division, UMC Utrecht, The Netherlands, 2017

2) *Investigating the brain's wiring with diffusion MRI*
The Registration and Imaging of Brain Systems (RIBS) lab, Brain Center Rudolf Magnus, UMC Utrecht, The Netherlands, 2016

3) *ExploreDTI: software for diffusion MRI processing, analysis, and visualization*
Meeting “Extension NEOBRAIN population”, Department of Neonatology, UMC Utrecht, The Netherlands, 2013

4) *Diffusion in neuroimaging: From the random walk of H_20 molecules to white matter fiber pathways in the brain*
ImagO introduction course, UMC Utrecht, Utrecht, The Netherlands, 2010

5) *Research at the Image Sciences Institute*
Symposium on Medical Physics, Dept. of Radiotherapy and Radiology, UMC Utrecht, 2010

6) *Introduction of MR diffusion fiber tractography*
URIBS – tractography meeting, UMC Utrecht, Utrecht, The Netherlands, 2009

7) *Tensors, tracts, and blobs in diffusion MRI: Improving the reliability of quantitative analyses*
Image Sciences Institute - UMC Utrecht, Utrecht, The Netherlands, 2009

8) *The random walk in Neuroimaging: Reconstructing Brain Connections from the Diffusion of H_20*
ImagO, UMC Utrecht, Utrecht, The Netherlands, 2009

REVIEWING FOR JOURNALS AND CONFERENCES

American Journal of Neuroradiology
Archives of General Psychiatry
Biological Psychiatry
Brain
Brain Structure and Function
Cerebral Cortex
Computers in Biology and Medicine
Computer Methods in Biomechanics and Biomedical Engineering
Cortex
Diabetes Care
European Society for Magnetic Resonance in Medicine and Biology
Frontiers in Neuroscience
IEEE Advanced Concepts for Intelligent Vision Systems
IEEE Transactions in Medical Imaging
IEEE Transactions on Biomedical Engineering
International Conference on Pattern Recognition
International Society for Magnetic Resonance in Medicine
Human Brain Mapping
Journal of Cerebral Blood Flow and Metabolism
Journal of Magnetic Resonance Imaging
Journal of Morphology
Journal of Neuroimaging
Journal of Neuroscience
Journal of Neuroscience Methods
Journal of Neurotrauma
Journal of Psychiatry and Neuroscience
Journal of Signal Processing Systems
Lecture Notes in Computer Science
Magnetic Resonance Imaging
Magnetic Resonance in Medicine
Magnetic Resonance Materials in Physics, Biology and Medicine
Measurement Science Review
Medical Engineering & Physics
Medical Image Analysis
Medical Image Computing and Computer Assisted Intervention
Medical Physics
Molecular Psychiatry
Neural Computation
Neurobiology of Aging
NeuroImage
NeuroImage: Clinical
Neuroradiology
NeuroScience
NMR in Biomedicine
Organization of Human Brain Mapping
PLoS One

Psychiatry Research: Neuroimaging
Radiology
Schizophrenia Research
Scientific Reports
Stem Cells International

EXTRAMURAL REVIEWING (GRANTS, RESEARCH PROGRAMS)

- ERC: "European Research Council" – Consolidator Grant
- NFNZ: "Neurological Foundation of New Zealand"
- INRIA: "Institut National de Recherche en Informatique et en automatique" (national institute for research in computer science and control) – Panel member for the evaluation of project-teams affiliated with the theme "Computational Neuroscience and Medicine"
- BBSRC: "Biotechnology and Biological Sciences Research Council" (UK government funding agency)
- LE STUDIUM: French funding agency (Centre-Val de Loire)
- MRC-CSF: Medical Research Counsel – Clinical Scientist Fellowship scheme (UK government funding agency)
- Wings for Life: Spinal Cord Research Foundation (Austrian Funding Agency)
- Wellcome Trust: "Collaborative Award in Science" (UK government funding agency)
- EPSRC: "Engineering and Physical Sciences Research Council" (UK government funding agency)
- FWF: "Fonds zur Förderung der wissenschaftlichen Forschung" (Austrian Science Fund)
- SNSF: "Schweizerischer Nationalfonds zur Förderung der wissenschaftlichen Forschung" (Swiss National Science Foundation)
- ANR: "Agence Nationale de la Recherche" (National Research Foundation, France)
- IWT: "Agentschap voor Innovatie door Wetenschap en Technologie" (Agency for Innovation by Science and Technology, Belgium)
- FWO: "Fonds Wetenschappelijk Onderzoek – Vlaanderen" (Research Foundation Flanders, Belgium)

EXAMINER FOR THESIS DISSERTATIONS

- Kim Braeckman

  Elektronics and Information Systems, Faculty of engineering and Architecture, Ghent University, Belgium, "Towards diffusion MRI biomarkers for cognitive training in a mild traumatic brain injury rat model", Supervisors: Christian Vanhove, Benedicte Descamps and Karen Caeyenberghs, 2019 (member of the PhD Assessment Committee)

- Rutger Heinen

  Department of Neurology, University Medical Center Utrecht, The Netherlands, "Distant effects of cerebral small vessel disease in the brain: Looking beyond the obvious", Supervisors: Geert Jan Biessels, Yael Reijmer and Jeroen de Bresser, 2019 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Robbert Harms

  Department of Cognitive Neuroscience, Maastricht Brain Imaging Centre (MBIC), Faculty of Psychology & Neuroscience, Maastricht University, The Netherlands, "Diffusion MRI Analysis: Robust and efficient microstructure modeling", Supervisors: Rainer Goebel and Alard Roebroeck, 2019 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Oliver Timothy Wiebenga

  Department of Radiology and Nuclear Medicine, the Department of Anatomy and Neurosciences, and the MS Center at the VU University Medical Center, Amsterdam, The Netherlands, “Advanced neuroimaging of therapy effects in multiple sclerosis”, Supervisor: Jeroen Geurts, 2019 (member of the PhD Assessment Committee)

- Demian Wasserman

  Parietal Team, INRIA Saclay Ile-de-France, Paris, France, HDR: “Microstructure, Macrostructure, and Cognition. A walk in Diffusion MRI”, 2019 (“Raporteur” for the “Habilitation á

  Diriger des Recherches” du Sorbonne Université)

- Olivier Commowick

  Visages Team, INRIA Rennes - Bretagne Atlantique, Campus de Beaulieu, Rennes, France, HDR: “Compartments imaging for the characterization of brain diseases from quantitative MRI”, 2019 (“Jury” for the “Habilitation á Diriger des Recherches” du Université de Rennes)

- Quinten van Geest

  Department of Anatomy and Neurosciences, VU University Medical Center, Amsterdam, The Netherlands, “Cognitive decline in multiple sclerosis”, Supervisor: Jeroen Geurts, 2018 (opponent at thesis defense ceremony)

- Chenyu (Tim) Wang

  The Brain and Mind Center, Faculty of Medicine, University of Sydney, “Improving the specificity of quantitative neuroimaging biomarkers for monitoring disease progression and understanding disease mechanisms in multiple sclerosis with diffusion magnetic resonance imaging”, Supervisor: Michael Barnett, 2018 (member of the PhD Assessment Committee)

- Richard Parker

  Department of Neuroimaging, Institute of Psychiatry, Psychology & Neuroscience, King’s College London, UK, “Multivariate pattern recognition as a tool for investigating cognitive ageing: combining machine learning and diffusion MRI”, Supervisor: Michael O’Sullivan, 2018 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Renée Walhout

  University Medical Center Utrecht, the Netherlands, “Cerebral changes in amyotrophic lateral sclerosis”, Supervisor: L.H. van den Berg, 2017 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Hans van der Horn

  Neurology Department of the University Medical Center Groningen, the Netherlands, “Adaptation after mild traumatic brain injury”, Supervisors: J. van der Naalt, J.M. Spikman, 2017 (opponent at thesis defense ceremony)

- Rutger Fick

  Athena Project-Team, Inria Sophia Antipolis – Méditerranée, France, “Advanced dMRI Signal Modeling for Tissue Microstructure Characterization”, Supervisor: R. Deriche, 2017 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Matteo Mancini

  University of Roma (“Roma Tre”) - Rome, Italy, “Combining neuroimaging and brain stimulation: A connectomics perspective”, Supervisor: M. Cercignani, 2017 (member of the PhD Assessment Committee)

- Alberto De Luca

  University of Padova - Department of Information Engineering, Italy, “Diffusion MRI of the brain and skeletal muscle”, Supervisor: A. Bertoldo, 2016 (member of the PhD Assessment Committee).

- Luis Miguel Lacerda

Department of Neuroimaging, Institute of Psychiatry, Psychology & Neuroscience, King's College London, UK, "Quantitative White Matter Metrics: Diffusion Imaging and Advanced Processing for Detailed Investigation of Brain Microstructure", Supervisors: Gareth Barker and Flavio Dell'Acqua, 2016 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Mohammad Alipoor

  Chalmers University of Technology, Gothenburg, Sweden, "Computational diffusion MRI: optimal gradient encoding schemes", Supervisor: Irene Yu-Hua Gu, 2016 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Gabriel Girard

  Départment d'informatique, faculté des sciences, Université de Sherbrooke, QC, Canada & Équipe-projet Athena, INRIA Université de Nice-Sophia Antipolis – Méditerranée, France, "White matter tractography guided by anatomical and microstructural priors", Supervisors: Rachid Deriche, Maxime Descoteaux, and Kevin Whittingstall, 2016 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Mwape Mofya

  MRC/UCT Medical Imaging Research Unit, Department of Human Biology, Faculty of Health Sciences, University of Cape Town, South Africa, "Simultaneous DTI and rs-fMRI using the navigated diffusion sequence", Supervisors: E. Meintjes, A. Alhamud, P. Taylor, 2015 (member of the MSc Assessment Committee)

- Farshid Sepehrband

  Queensland Brain Institute, University of Queensland, Australia, "Axonal morphometry using diffusion-weighted MRI", Supervisors: Zhengyi Yang and David Reutens, 2015 (member of the PhD Assessment Committee)

- Janice Hua

  Groupe d'Imagerie Neurofonctionnelle, Université de Bordeaux, France, "Extraction and description of WM association bundles", Supervisor: Laurent Petit, 2015 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Nele De Geeter

  Department of Electrical Energy, Systems and Automation, Ghent University, Ghent, Belgium, "A DTI based computational model for transcranial magnetic stimulation", Supervisors: Luc Dupré, Guilllaume Crevecoeur, 2015 (member of the PhD Assessment Committee)

- Madelon Pijnenburg

  Group Biomedical Sciences, Department of Rehabilitation Sciences, KU Leuven, Belgium, "The neural basis of sensorimotor control in individuals with non-specific low back pain and healthy controls", Supervisors: Simon Brumagne, Karen Caeyenberghs, and Stephan Swinnen, 2015 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Nina Reislev

  Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Denmark, "The Wiring of the Blind Brain", Supervisors: Hartwig Siebner, Tim Dyrby, Maurice Ptito, and Ron Kupers, 2014 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Elodie André

  Cyclotron Research Centre, University of Liege, Belgium, "Improvement of data quality for Di usion Kurtosis Imaging and application to clinical neurological research", Supervisors: Christophe Phillips, Farida Grinberg, and Jon Shah, 2014 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Mohammad Alipoor

  Chalmers University of Technology, Gothenburg, Sweden, "Computational Diffusion MRI: Tensor-

based Models for Diffusion Imaging of the Brain", Supervisors: Irene Yu-Hua Gu and Andrew Mehnert, 2014 (member of the MSc Assessment Committee & opponent at thesis defense ceremony)

- Kajo van der Marel

  Utrecht University, The Netherlands, "Structural and functional MRI of normal and compromised rat brain development", Supervisors: M.A. Viergever, R.M. Dijkhuizen, and L. Reneman, 2013 (opponent at PhD thesis defense ceremony)

- Pim Pullens

  Maastricht University, the Netherlands, "Diffusion weighted magnetic resonance imaging: validation, correction and applications", Supervisors: R. Goebel and A. Roebroeck, 2012 (member of the PhD Assessment Committee & opponent at thesis defense ceremony)

- Yael Reijmer

  Utrecht University, The Netherlands, "Vascular Cognitive Impairment: risk factors and brain MRI correlates", Supervisors: L.J. Kappelle, G.J. Biessels, and E. van den Berg, 2012 (opponent at PhD thesis defense ceremony)

- Alkathafi Alhamud

  Cape Universities Brain Imaging Centre (CUBIC), Department of Human Biology, University of Cape Town, South Africa, "Implementation of Anatomical Navigators for Real Time Motion Correction in Diffusion Tensor Imaging", Supervisors: E. Meintjies and A. van der Kouwe, 2012 (member of the PhD Assessment Committee)

- Tom Close

  University of Melbourne, Australia, "Advanced techniques in diffusion MRI tractography of cerebral white matter", Supervisors: L. Johnston, J.D. Tournier, and F. Calamante, 2011 (member of the PhD Assessment Committee)

- Jeroen de Bresser

  Utrecht University, The Netherlands, "MRI-based quantification of brain damage in cerebrovascular disorders", Supervisors: M.A. Viergever, L.J. Kappelle, and G.J. Biessels, 2011 (opponent at PhD thesis defense ceremony)

COMMITTEES AND MEMBERSHIPS

- Member of the ISMRM Annual Meeting Program Committee, 2018 – present
- Member of the ESMRMB Annual Meeting Scientific Program Committee (Rotterdam, 2019)
- Steering Committee Member of the ESMRMB School of MRI, 2017 – present
- Member of Organization for Human Brain Mapping, 2009 – 2010, 2014 – present
- Member of the USERN (Universal Scientific Education and Research Network) Advisory board, 2016 – present
- Member of the ESMRMB Annual Meeting Scientific Program Committee (Barcelona, 2017)
- Member of ISMRM Diffusion MRI Study Group, 2004 – present
- Member of the International Society for Magnetic Resonance in Medicine (ISMRM), 2004 – present
- Member of the European Society for Magnetic Resonance in Medicine and Biology (ESMRMB), 2003 – 2006, 2015 – present
- Program Committee Member of MICCAI workshop, entitled: "Mathematical Methods for Brain Connectivity", Munich, Germany, 2015
- Secretary of the ISMRM Diffusion Study Group Committee – International Society of Magnetic Resonance in Medicine, 2013 – 2015
- Program Committee Member of MICCAI workshop, entitled: "Mathematical Methods for Brain Connectivity", Nagoya, Japan, 2013

- Member of the Belgian Microscopy Society, 2004 – 2006
- Graduate students' representative for the Physics Research Committee, Antwerp University, Belgium, 2000 – 2002

EDITORIAL BOARDS

- BMC Medical Imaging (Associate Editor), 2016 – present
- Tomography (Academic Editor), 2015 – present
- PLOS ONE (Academic Editor), 2014 – present
- Frontiers in Neuroscience and Neurology (Review Editor for section "Brain Imaging Methods"), 2014 – present
- NMR in Biomedicine (Guest Editor), 2016 – 2019

ORGANIZATIONAL & PROFESSIONAL ACTIVITIES

- Board Member of the Scientific Counsel MS Research (https://msresearch.nl) – the Netherlands, 2017 – present
- Organizer of the NMR in Biomedicine Special Issue "Diffusion MRI of the brain: The naked truth", 2017
- Organizer of the *ExploreDTI* courses (three-day workshop): http://www.exploredti.com/workshop, 2016 – present
- Co-chair and organizer of the 22nd Annual Meeting OHBM Satellite Symposium: "Ex vivo approaches for investigating the brain's circuitry: The what, the how & the why", Geneva, Switzerland, 2016
- Co-chair and organizer of the 4th International ISMRM Diffusion Study Group workshop "Breaking the Barriers of Diffusion MRI", 2016.
- Co-moderator of oral scientific session ("Frontiers of Diffusion") at the ISMRM Annual Meeting, Singapore, 2016
- Course Director "Clinical fMRI & DTI - Theory and Practice" of the ESMRMB School of MRI, 2016 – present
- Founder and head of the PROVIDI Lab (http://www.providi-lab.org). Funding, recruiting, and managing personnel, setting out research line(s), 2013 – present
- Author of ExploreDTI, a freely available dMRI software toolbox (http://www.ExploreDTI.com), 2005 – present
- Co-moderator of oral scientific sessions at the joint ISMRM-ESMRMB Annual Meeting ("Diff/Perf Wed Sunrise: Absolute Beginners Guide to Neuroimaging Methods" & "Diffusion Applications"), Milan – Italy, 2014
- Co-moderator of oral scientific session ("Diffusion Acquisition") at the ISMRM Annual Meeting, Salt Lake City – USA, 2013
- Evaluator, referee and advisor for promotions and appointments of (tenured) faculty positions at universities and academic institutions in USA (2013/2015) and Israel (2017)
- Co-moderator of oral scientific session ("Clinical Diffusion") at the ISMRM Annual Meeting, Melbourne – Australia, 2012
- Co-organizer & Moderator educational session (Zooming in on the network: structural and functional connectivity) in national PhD workshop "Current issues in clinical neuroscience: advances in brain MRI", Utrecht, The Netherlands, 2011
- Co-moderator of oral scientific session at the ISMRM-ESMRMB Joint Annual Meeting, Stockholm –

Sweden, 2010

- Co-organizer ISMRM British Chapter, Cardiff University, United Kingdom, 2009
- Co-organizer conference: Young Neuroscientist's Day, Cardiff, United Kingdom, jointly hosted by Cardiff University and the University of Bristol, 2008
- Organizer of "Monday's Brain Mapping Seminars" (weekly seminars at CUBRIC, Cardiff University with presentations of internal and external guest speakers), 2007 – 2008
- Co-organizer conference: Advanced Concepts for Intelligent Vision Systems (ACIVS), Antwerp University, Belgium (jointly hosted by Antwerp University and the University of Ghent), 2005

PUBLIC ENGAGEMENT AND POPULAR PRESS

- Co-organizer "YOUth" public event: popular meeting with participants (kids and parents) of a large-scale brain development project to explain our research and present our progress, 2019
- Science outreach & raising awareness of our research via Twitter (@Alex_Leemans), 2014 – present
- Guest lecture at Scheppersinstituut, a high school in Mechelen, Belgium. Audience: 17/18 year old students. Topic: advances in MRI for investigating fibrous tissue – 2018
- Contribution to Traveling Science Exhibition "Beyond Human Limits" from Science North, Sudbury, Ontario, Canada, 2018
- Contribution to Exhibition "Our Senses" at the American Museum of Natural History – New York, USA, 2017
- Contribution to Interstellate – Volume 2, 2017
- Contribution to CBBC series *Operation Ouch!* (science and medical show) – Maverick TV, television production company in the UK, 2017
- Dutch Brain Awareness Week: "Neurowetenschappers op school" ("Neuroscientists at school"): Teaching 17-year-old high school students about the brain, Jeroen Bosch College, 's-Hertogenbosch, 2014, 2016 - 2019
- Dutch Science Event: "Weekend van de Wetenschap", PROVIDI Lab contributed to "6D Door De Hersenen", University Museum Utrecht, 2016
- Contribution of animation for interview in VTM (Belgium national TV channel) news on 2 March, 2016; http://nieuws.vtm.be/180951-vtm-nieuws-woensdag-02032016-19u)
- Contribution to "Blickfang" in "Gehirn und Geist" (a magazine of the German edition of Scientific American), http://www.spektrum.de/magazin/gehirn-und-geist, 2015
- Contribution (3D brain print) to Exhibition Andreas Vesalius (M-Museum Leuven) in collaboration with Faber (KU Leuven) and iMaterialise, 2015
- "Hoe magnetisme en diffusie kunnen bijdragen aan hersenonderzoek: toepassingen van diffusie-MRI tractografie" in NeuroPraxis (Dutch neuroscience magazine), 2014
- "Diffusie MRI" in "Beeldspraak" (Dutch magazine of Imaging Division of UMC Utrecht) Vol. 3(3), 2012
- Presentation at the "Rotary Club Rosmalen", the Netherlands (in Dutch): "Hoe magnetisme en diffusie kunnen bijdragen aan hersenonderzoek", 2012
- Participation in exhibition "Get Smart! Entertain your brain" of "The Brain Project" at "Continium", the Discovery Center in Kerkrade (http://www.continium.nl), 2012
- Contribution to "Dream The End studio": http://www.dreamtheend.com, 2011
- Contribution to documentary "Sidelined: Sports Concussions" on QUEST TV in USA (video

footage: http://science.kqed.org/quest/video/sidelined-sports-concussions), 2011

- Providing data to make a scientific animation for "The Walter and Eliza Hall Institute of Medical Research" (Drew Berry), 2010
- No. one in "Top 10 science videos" (http://www.newscientist.com/article/dn19648-best-of-web-video-halloween-special.html), NewScientist, (MacGregor Campbell), 2010
- Contributed to Serbian magazine "MDExplorer" (Vladica Veličković), 2010
- "Supercomputers unlocking the brain's secrets – CUBRIC's odyssey" (interview by Nick Heath), www.Silicon.com, 2008
- "Visualizing white matter fiber pathways in the human brain", Contribution to the scientific exhibition "Cardiff University Research Projects Overview" at the National Museum of Wales (organizer: Andrew Emery – Community Engagement Team), 2008
- Scientific educational poster exhibitions: "Sut Rydym Yn Meddwl" (How We Think) and "Strwythur Ymennydd" (Brain Structure) at "The National Eisteddfod of Wales" (celebration of Wales' wealth of culture), 2008
- Interviews after winning the "European Brain Expert" award: "Brain Wave" (Cardiff University News Centre), "Uni's researcher wins Brain Expert prize" (Western Mail Newspaper), "Brain breakthrough" (Gair Rhydd), "First Prize in Brain Research" (Times Higher Education), "CUBRIC researcher wins top prize" (Cardiff Neurosciences Centre), 2008
- "Cardiff University's Science in Health Live!" (scientific exhibition: "Inside the Living Brain" – United Kingdom), 2007 – 2008
- "Nieuwe scantechniek kijkt virtueel in het brein: hersenen anders bekeken", EOS magazine (Scientific American - Dutch language edition), Vol. 7-8 (July-August) p. 102-105, 2006
- "Science Week Event" (interactive exhibition – Hasselt, Belgium), 2006
- "Day of Technology" (educational exhibition – Antwerp, Belgium), 2004 – 2006
- "Bi-annual Belgian Science Festival" (interactive exhibition – Antwerp, Belgium), 2004, 2006
- "University for Children" (interactive exhibition – Antwerp, Belgium), 2005 – 2006

REFERENCES

- Prof. Derek K. Jones, Director of CUBRIC
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  Cardiff University
  Park Place
  Cardiff, CF5 2AF
  United Kingdom
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- Prof. Christian Beaulieu, The In Vivo NMR Centre
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PUBLICATIONS

- **Ph.D. Thesis**

A. Leemans, *"Modeling and Processing of Diffusion Tensor Magnetic Resonance Images for Improved Analysis of Brain Connectivity"*, University of Antwerp, Belgium, ISBN: 90-5728-054-X, 2006

- **Books**

1. J. Marino Dávolos, **A. Leemans**, L. Ledesma Torres, R. Jaldo, J. Cruz Arias, *"Microestructura de la cognición: Resonancia magnética aplicada a las neurociencias",* Publisher: Amolca (Actualidades Medico Odontologicas Latinoamericanas), ISBN: 9789804300325, 2019

- **Book Chapters**

2. C.M.W. Tax, S.B. Vos, and **A. Leemans**, *"Checking and correcting DTI data"* – In W. Van Hecke, L. Emsell, and S. Sunaert (Eds.), Diffusion Tensor Imaging: A Practical Handbook, Springer New York, p. 127-150, 2016
3. M. Froeling, P. Pullens, and **A. Leemans**, *"DTI Analysis Methods: Region-of-Interest Analysis"* – In W. Van Hecke, L. Emsell, and S. Sunaert (Eds.), Diffusion Tensor Imaging: A Practical Handbook, Springer New York, p. 175-182, 2016
4. W. Van Hecke, **A. Leemans**, and L. Emsell, *"DTI Analysis Methods: Voxel-Based Analysis"* – In W. Van Hecke, L. Emsell, and S. Sunaert (Eds.), Diffusion Tensor Imaging: A Practical Handbook, Springer New York, p. 183-203, 2016
5. K.M. Curran, L. Emsell, and **A. Leemans**, *"Quantitative DTI measures"* – In W. Van Hecke, L. Emsell, and S. Sunaert (Eds.), Diffusion Tensor Imaging: A Practical Handbook, Springer New York, p. 65-87, 2016
6. S.B. Vos, C.M.W. Tax, and **A. Leemans**, *"Diffusion MRI and fiber tractography: The State-Of-The-Art and its Potential Impact on Patient Management"* – In T.C. Kwee and H. Zaidi (Eds.), PET Clinics – Evolving Medical Imaging Techniques, Elsevier, Vol. 8, p. 279-293, 2013
7. D.K. Jones and **A. Leemans**, *"Diffusion Tensor Imaging"*, Methods in Molecular Biology, Vol. 711, p. 127-144, 2011 – In M. Modo and J.W. Bulte (Eds.), MR Neuroimaging: Protocols and Methods, Humana Press, ISBN: 9781617379918
8. **A. Leemans**, *"Visualization of diffusion MRI data"*. In D.K. Jones (Ed.), Diffusion MRI: Theory, Methods and Applications. Oxford University Press, ISBN: 9780195369779, Chapter 21, p. 354 – 379, 2010

- **Peer-reviewed International Journal Articles (in press or published)**

9. N. Dooley, E. O'Hanlon, C. Healy, A. Adair, C. McCandless, D. Coppinger, I. Kelleher, M. Clarke, A. Leemans, T. Frodl, M. Cannon, *"Psychotic experiences in childhood are associated with increased structural integrity of the left arcuate fasciculus - A population-based case-control study."*, Schizophrenia Research, (in press)
10. M. Stam, W. Haakma, L. Kuster, M. Froeling, M.E.P. Philippens, C. Bos, A. Leemans, L.A.M. Otto, L.H. van den Berg, J. Hendrikse, W.L. van der Pol, *"Magnetic resonance imaging of the cervical spinal cord in spinal muscular atrophy"*, NeuroImage: Clinical, (in press)

11. H.Y. Mesri, S. David, M.A. Viergever, **A. Leemans**, *"The adverse effect of gradient nonlinearities on diffusion MRI: From voxels to group studies"*, NeuroImage, (in press)

12. A. De Luca, L. Schlaffke, J.C.W. Siero, M. Froeling, **A. Leemans**, *"On the sensitivity of the diffusion MRI signal to brain activity in response to a motor cortex paradigm"*, Human Brain Mapping, (in press)

13. J.K. Gool, R. Fronczek, **A. Leemans**, D.A. Kies, G.J. Lammers, Y.D. Van der Werf, *"Widespread white matter connectivity abnormalities in narcolepsy type 1: A diffusion tensor imaging study"*, Human Brain Mapping, (in press)

14. S. St-Jean, M. Chamberland, M.A. Viergever, **A. Leemans**, *"Reducing variability in along-tract analysis with diffusion profile realignment"*, NeuroImage, (in press)

15. V. Nath, K.G. Schilling, A.E. Hainline, Y. Huo, P. Parvathaneni, J.A. Blaber, M. Rowe, P. Rodrigues, V. Prchkovska, D. Baran Aydogan, W. Sun, Y. Shi, W.A. Parker, A. Aziz Ould Ismail, R. Verma, R.P. Cabeen, A.W. Toga, A.T. Newton, J. Wasserthal, P. Neher, K. Maier-Hein, G. Savini, F. Palesi, E. Kaden, Y. Wu, J. He, Y. Fen, M. Barakovic, D. Romascano, J. Rafael-Patino, M. Frigo, G. Girard, A. Daducci, J.P. Thiran, M. Paquette, F. Rheault, J. Sidhu, C. Lebel, **A. Leemans**, M. Descoteaux, T.B. Dyrby, H. Kang, and B.A. Landman, *"Tractography Reproducibility Challenge with Empirical Data (TraCED): The 2017 ISMRM Diffusion Study Group Challenge"*, Journal of Magnetic Resonance Imaging, (in press)

16. S. Krohn, M. Froeling, **A. Leemans**, D. Ostwald, P. Villoslada, C. Finke, F.J. Esteban, *"Evaluation of the 3D fractal dimension as a marker of structural brain complexity in multiple-acquisition MRI."*, Human Brain Mapping, Vol. 40(11), p. 3299-3320, 2019

17. C.M. Tax, F. Grussu, E. Kaden, L. Ning, U. Rudrapatna, J. Evans, S. St-Jean, **A. Leemans**, S. Koppers, D. Merhof, A. Ghosh, R. Tanno, D.C. Alexander, S. Zappalà, C. Charron, S. Kusmia, D.E. Linden, D.K. Jones, J. Veraart, *"Cross-scanner and cross-protocol diffusion MRI data harmonisation: A benchmark database and evaluation of algorithms"*, NeuroImage, Vol. 15(195), p. 285-299, 2019

18. **A. Leemans**, *"Diffusion MRI of the brain: The naked truth"*, NMR in Biomedicine, Vol. 32(e4084), p. 1-2, 2019

19. L.M. Moura, R. Luccas, J.P.Q.D. Paiva, E. Amaro Jr, **A. Leemans**, C.C. Leite, M.C.G. Otaduy, A.B. Conforto, *"Diffusion tensor imaging biomarkers to predict motor outcomes in stroke: A narrative review"*, Frontiers in neurology, Vol. 10(445), 2019

20. B. Jeurissen, M. Descoteaux, S. Mori, **A. Leemans**, *"Diffusion MRI Fiber tractography of the brain"*, NMR in Biomedicine, Vol. 32(e3785), p. 1-22, 2019

21. S. David, A.M. Heemskerk, F. Corrivetti, M. Thiebaut De Schotten, S. Sarubbo, F. Corsini, A. De Benedictis, L. Petit, M.A. Viergever, D.K. Jones, E. Mandonnet, H. Axer, J. Evans, T. Paus, and **A. Leemans**, *"The superoanterior fasciculus (SAF): A novel white matter pathway in the human brain?"*, Frontiers in Neuroanatomy, Vol. 13(24), p. 1-18, 2019

22. S.H.J. Nagtegaal, S. David, A.T.J. van der Boog, **A. Leemans**, J.J.C. Verhoeff, *"Changes in cortical thickness and volume after cranial radiation treatment: A systematic review"*, Radiotherapy and Oncology, Vol. 135, p.33-42, 2019

23. M.J.C.M. Augustijn, E. D'Hondt, **A. Leemans**, L. Van Acker, A. De Guchtenaere, M. Lenoir, F.J.A. Deconinck, K. Caeyenberghs, *"Weight loss, behavioral change, and structural neuroplasticity in children with obesity through a multidisciplinary treatment program"*, Human brain mapping, Vol. 40(1), p. 137-150, 2019

24. T. Roine, B. Jeurissen, D. Perrone, J. Aelterman, W. Philips, J. Sijbers, **A. Leemans**, *"Reproducibility and intercorrelation of graph theoretical measures in structural brain connectivity networks"*, Medical Image Analysis, Vol. 52, p. 56-67, 2019

25. S. van Veluw, Y. Reijmer, A. van der Kouwe, A. Charidimou, G. Riley, **A. Leemans**, B. Bacskai, M. Frosch, A. Viswanathan, and S.M. Greenberg, *"Histopathology of diffusion imaging abnormalities in cerebral amyloid angiopathy"*, Neurology, Vol. 92(9), p. 933-943, 2019

26. K. Caeyenberghs, R. Duprat, **A. Leemans**, H. Hosseini, P.H. Wilson, D. Klooster, C. Baeken, *"Accelerated intermittent theta burst stimulation in major depression induces decreases in modularity: A connectome analysis"*, Network Neuroscience, Vol. 3(1) 157-172, 2019

27. M.R.T. Sinke, W.M. Otte, D. Christiaens, O. Schmitt, **A. Leemans**, A. van der Toorn, R. Angela Sarabdjitsingh, M. Joëls, R.M. Dijkhuizen, *"Diffusion MRI-based cortical connectome reconstruction - dependency on tractography procedures and neuroanatomical characteristics"*, Brain Structure and Function, Vol. 223, p. 2269-2285, 2018

28. O.F. Odish, R.H. Reijntjes, S.J. van den Bogaard, R.A. Roos, **A. Leemans**, *"Progressive microstructural changes of the occipital cortex in Huntington's disease"*, Brain Imaging and Behavior, Vol. 12(6), p. 1786-1794, 2018

29. V. Sairanen, **A. Leemans**, C.M.W. Tax, *"Fast and accurate Slicewise OutLIer Detection (SOLID) with informed model estimation for diffusion MRI data"*, NeuroImage, Vol. 181, p. 331-346, 2018

30. A. De Luca, **A. Leemans**, A. Bertoldo, F. Arrigoni, M. Froeling, *"A robust deconvolution method to disentangle multiple water pools in diffusion MRI"*, NMR in Biomedicine, Vol. 31(11), e3965, 2018

31. C. Gagliardi, F. Arrigoni, A. Nordio, A. De Luca, D. Peruzzo, A. Decio, **A. Leemans**, R. Borgatti, *"A Different Brain: Anomalies of Functional and Structural Connections in Williams Syndrome"*, Frontiers in Neurology, Vol. 9, p. 721, 2018

32. R. Heinen, N. Vlegels, J. de Bresser, **A. Leemans**, G.J. Biessels, Y.D. Reijmer, Utrecht Vascular Cognitive Impairment study group, *"The cumulative effect of small vessel disease lesions is reflected in structural brain networks of memory clinic patients"*, NeuroImage: Clinical, Vol. 19, p. 963-969, 2018

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