

# Publications Medisip 2019

## A1

- **Aranit Harizaj, Olivier De Clercq, Benedicte Descamps, Christian Vanhove, Stefaan De Smedt, Dirk Poelman, Ine Lentacker and Kevin Braeckmans:** Biocompatible lipid-coated persistent luminescent nanoparticles for in vivo imaging of dendritic cell migration. *PARTICLE & PARTICLE SYSTEMS CHARACTERIZATION*. 36(11).
- **Christian Vanhove and Ingeborg Goethals:** Magnetic resonance imaging-guided radiation therapy using animal models of glioblastoma. *BRITISH JOURNAL OF RADIOLOGY*. 92(1095).
- **Elissa-Marie Cocquyt, Camille Coffé, Pieter van Mierlo, Wouter Duyck, Peter Mariën, Arnaud Szmalec, Patrick Santens and Miet De Letter:** The involvement of subcortical grey matter in verbal semantic comprehension: a systematic review and meta-analysis of fMRI and PET studies. *JOURNAL OF NEUROLINGUISTICS*. 51. p.278-296.
- **Elke Van Daele, Yves Van Nieuwenhove, Wim Ceelen, Christian Vanhove, Bart Braeckman, Anne Hoorens, Jurgen Van Limmen, Oswald Varin, Dirk Van de Putte, Wouter Willaert, et al.:** Near-infrared fluorescence guided esophageal reconstructive surgery: a systematic review. *WORLD JOURNAL OF GASTROINTESTINAL ONCOLOGY*. 11(3). p.250-263.
- **Emma Christiaen, Marie-Gabrielle Goossens, Robrecht Raedt, Benedicte Descamps, Lars Emil Larsen, Erine Craey, Evelien Carrette, Kristl Vonck, Paul Boon and Christian Vanhove:** Alterations in the functional brain network in a rat model of epileptogenesis: a longitudinal resting state fMRI study. *NEUROIMAGE*. 202.
- **Glenn Pauwelyn, Lise Vlerick, Robrecht Dockx, Jeroen Verhoeven, André Dobbeleir, Tim Bosmans, Kathelijne Peremans, Christian Vanhove, Ingeborgh Polis and Filip De Vos:** Kinetic analysis of [18F] altanserin bolus injection in the canine brain using PET imaging. *BMC VETERINARY RESEARCH*. 15.
- **Glenn Pauwelyn, Lise Vlerick, Robrecht Dockx, Jeroen Verhoeven, André Dobbeleir, Kathelijne Peremans, Ingeborg Goethals, Tim Bosmans, Christian Vanhove, Filip De Vos, et al.:** PET quantification of [18F]MPPF in the canine brain using blood input and reference tissue modelling. *PLOS ONE*. 14(6).
- **Jana Desloovere, Paul Boon, Lars Emil Larsen, Caroline Merckx, Marie-Gabrielle Goossens, C Van den Haute, V Baekelandt, D De Bundel, Evelien Carrette, Jean Delbeke, et al.:** Long-term chemogenetic suppression of spontaneous seizures in a mouse model for temporal lobe epilepsy. *EPILEPSIA*. 60(11). p.2314-2324.
- **Jannick De Tobel, Griet Parmentier, Inès Phlypo, Benedicte Descamps, Sara Neyt, Wim Leon Van De Velde, Constantinus Politis, Koenraad Verstraete and Patrick Werner Thevissen:** Magnetic resonance imaging of third molars in forensic age estimation:

- comparison of the Ghent and Graz protocols focusing on apical closure. INTERNATIONAL JOURNAL OF LEGAL MEDICINE. 133(2). p.583-592.
- **Jeroen Verhoeven, Fabian Hulpia, Ken Kersemans, Julie Bolcaen, Stef De Lombaerde, Jan Goeman, Benedicte Descamps, Giorgio Hallaert, Caroline Van den Broecke, Karel Deblaere, et al.:** New fluoroethyl phenylalanine analogues as potential LAT1-targeting PET tracers for glioblastoma. SCIENTIFIC REPORTS. 9.
  - **Jeroen Verhoeven, Julie Bolcaen, Valerie De Meulenaere, Ken Kersemans, Benedicte Descamps, Sam Donche, Caroline Van den Broecke, Tom Boterberg, Jean-Pierre Kalala Okito, Karel Deblaere, et al.:** Technical feasibility of [18F]FET and [18F]FAZA PET guided radiotherapy in a F98 glioblastoma rat model. RADIATION ONCOLOGY. 14.
  - **Joke Devoldere, Karen Peynshaert, Heleen Dewitte, Christian Vanhove, Lies De Groef, Lieve Moons, Sinem Yilmaz Özcan, Deniz Dalkara, Stefaan De Smedt and Katrien Remaut:** Non-viral delivery of chemically modified mRNA to the retina: subretinal versus intravitreal administration. JOURNAL OF CONTROLLED RELEASE. 307. p.315-330.
  - **Kaat De Clercq, Feifan Xie, Olivier De Wever, Benedicte Descamps, Anne Hoorens, An Vermeulen, Wim Ceelen and Chris Vervaet:** Preclinical evaluation of local prolonged release of paclitaxel from gelatin microspheres for the prevention of recurrence of peritoneal carcinomatosis in advanced ovarian cancer. SCIENTIFIC REPORTS. 9.
  - **Kim Braeckman, Benedicte Descamps and Christian Vanhove:** Advanced diffusion imaging in the hippocampus of rats with mild traumatic brain injury. JOVE-JOURNAL OF VISUALIZED EXPERIMENTS.
  - **Kim Braeckman, Benedicte Descamps, Leen Pieters, Anne Vral, Karen Caeyenberghs and Christian Vanhove:** Dynamic changes in hippocampal diffusion and kurtosis metrics following experimental mTBI correlate with glial reactivity. NEUROIMAGE-CLINICAL. 21.
  - **Margo Steuperaert, Charlotte Debbaut, Charlotte Carlier, Olivier De Wever, Benedicte Descamps, Christian Vanhove, Wim Ceelen and Patrick Segers:** A 3D CFD model of the interstitial fluid pressure and drug distribution in heterogeneous tumor nodules during intraperitoneal chemotherapy. DRUG DELIVERY. 26(1). p.404-415.
  - **Mariele Stockhoff, Roel Van Holen and Stefaan Vandenberghe:** Optical simulation study on the spatial resolution of a thick monolithic PET detector. PHYSICS IN MEDICINE AND BIOLOGY. 64(19).
  - **Michiel Hubeau, Jens Mincke, Christian Vanhove, Jan Courtyn, Stefaan Vandenberghe and Kathy Steppe:** Plant-PET to investigate phloem vulnerability to drought in Populus tremula under changing climate regimes. TREE PHYSIOLOGY. 39(2). p.211-221.
  - **Molood Shariati, Heyang Zhang, Leen Van de Sande, Benedicte Descamps, Christian Vanhove, Wouter Willaert, Wim Ceelen, Stefaan De Smedt and Katrien Remaut:** High pressure nebulization (PIPAC) versus injection for the intraperitoneal administration of mRNA complexes. PHARMACEUTICAL RESEARCH. 36(9).
  - **Paulo Rauli Rafeson De Vasconcelos Caribé, M Koole, Yves D'Asseler, Bliede Van den Broeck and Stefaan Vandenberghe:**

- Noise reduction using a Bayesian penalized-likelihood reconstruction algorithm on a time-of-flight PET-CT scanner. *EJNMMI PHYSICS*. 6.
- **Paulo Rauli Rafeson De Vasconcelos Caribé, M. Koole, Yves D'Asseler, Timothy W Deller, K Van Laere and Stefaan Vandenberghe:** NEMA NU 2-2007 performance characteristics of GE Signa integrated PET/MR for different PET isotopes. *EJNMMI PHYSICS*. 6.
  - **Pieter van Mierlo, Yvonne Höller, Niels K. Focke and Serge Vulliemoz:** Network perspectives on epilepsy using EEG/MEG source connectivity. *FRONTIERS IN NEUROLOGY*. 10.
  - **Sam Donche, Jeroen Verhoeven, Benedicte Descamps, Julie Bolcaen, Karel Deblaere, Tom Boterberg, Caroline Van den Broecke, Christian Vanhove and Ingeborg Goethals:** The path toward PET-guided radiation therapy for glioblastoma in laboratory animals: a mini review. *FRONTIERS IN MEDICINE*. 6.
  - **Sander Lefere, Frederique Van de Velde, Anne Hoorens, Sarah Raevens, Sanne Van Campenhout, Astrid Vandierendonck, Sara Neyt, Bert Vandeghinste, Christian Vanhove, Charlotte Debbaut, et al.:** Angiopoietin-2 promotes pathological angiogenesis and is a therapeutic target in murine nonalcoholic fatty liver disease. *HEPATOLOGY*. 69(3). p.1087-1104.
  - **Stef De Lombaerde, Lindsey Devisscher, Jeroen Verhoeven, Sara Neyt, Hans Van Vlierberghe, Christian Vanhove and Filip De Vos:** Validation of hepatobiliary transport PET imaging in liver function assessment: evaluation of  $3\beta$ -[18F]FCA in mouse models of liver disease. *NUCLEAR MEDICINE AND BIOLOGY*. 68-69. p.40-48.

## A2

- **Laurent Sheybani, Pieter van Mierlo, Gwénaél Birot, Christoph M Michel and Charles Quairiaux:** Large-scale 3-5 Hz oscillation constrains the expression of neocortical fast ripples in a mouse model of mesial temporal lobe epilepsy. *ENEURO*. 6(1).
- **Michiel Hubeau, Jens Mincke, Christian Vanhove, Anaïs Pasiphaé Gorel, Adeline Fayolle, Jackie Epila, Olivier Leroux, Stefaan Vandenberghe and Kathy Steppe:**  $^{11}\text{C}$ -Autoradiographs to image phloem loading. *FRONTIERS IN FORESTS AND GLOBAL CHANGE*. 2.
- **Michiel Hubeau, Michael Robert Thorpe, Jens Mincke, Jasper Bloemen, Ingvar Bauweraerts, Peter Etheridge Havila Minchin, Veerle De Schepper, Filip De Vos, Christian Vanhove, Stefaan Vandenberghe, et al.:** High-resolution in vivo imaging of xylem-transported  $\text{CO}_2$  in leaves based on real-time  $^{11}\text{C}$ -tracing. *FRONTIERS IN FORESTS AND GLOBAL CHANGE*. 2.
- **Valerie De Meulenaere, Ellen Bonte, Jeroen Verhoeven, Jean-Pierre Kalala Okito, Leen Pieters, Anne Vral, Olivier De Wever, Luc Leybaert, Ingeborg Goethals, Christian Vanhove, et al.:** Adjuvant therapeutic potential of tonabersat in the standard treatment of glioblastoma: a preclinical F98 glioblastoma rat model study. *PLOS ONE*. 14(10).

## B2

- **Christian Vanhove and Stefaan Vandenberghe:** Multimodality imaging in small animal radiotherapy. Image fusion in preclinical applications. p.197-209.
- **Stef De Lombaerde, Sara Neyt, Christian Vanhove and Filip De Vos:** In vivo measurement of hepatic drug transporter inhibition with radiolabeled bile acids. Experimental cholestasis research. In Methods in Molecular Biology 1981. p.87-98.

## C1

- **Milan Decuyper and Roel Van Holen:** Fully automatic binary glioma grading based on pre-therapy MRI using 3D Convolutional Neural Networks. Medical Imaging with Deep Learning, MIDL 2019, Proceedings.

## C3

- **Charlotte Thyssen:** Optical simulation study on the timing performance of a monolithic crystal read out by an analog SiPM array. 2019 IEEE Nuclear Science Symposium (NSS) and Medical Imaging Conference (MIC), Abstracts.
- **Elissa-Marie Cocquyt, Patrick Santens, Pieter van Mierlo, Wouter Duyck, Arnaud Szmalec and Miet De Letter:** Age-related differences in auditory semantic priming: the development of normative electrophysiological data in the Dutch population. Science of Aphasia, 20th Conference, Abstracts.
- **Elly De Vlieghere, Emiel De Jaeghere, Glenn Wagemans, Thibaut Van Acker, Christian Vanhove, Sarah Neyts, Geert Berx, Frank Vanhaecke, Wim Ceelen, Bruno De Geest, et al.:** Tumor engineering a clinical relevant model that recapitulates the tumor environment of peritoneal metastases in vitro and in vivo. Belgian Association for Cancer Research, Annual meeting, Abstracts.
- **Ghazal Adeli Koudehi, Benedicte Descamps, Christian Vanhove, Charlotte Debbaut, Christophe Casteleyn, Pieter Cornillie and Patrick Segers:** Acquiring 3D morphological data of the lymphatic system in healthy mice: a feasibility study. Lymphatic Forum 2019, Abstracts.
- **Jara Stalpaert, Elissa-Marie Cocquyt, Lieselot Segers, Tim Van Langenhove, Marijke Miatton, Pieter van Mierlo and Miet De Letter:** Clinical and electrophysiological markers of primary progressive aphasia: a systematic review. Research Day & Student Research Symposium.
- **Jara Stalpaert, Elissa-Marie Cocquyt, Lieselot Segers, Tim Van Langenhove, Marijke Miatton, Pieter van Mierlo and Miet De Letter:** Klinisch logopedische en elektrofysiologische markers van primair progressieve afasie: een systematische review. VVL-congres, 40e, Abstracts.

- **Jens Debacker, Radoslaw Marcinkowski, Vincent Keereman, Yves D'Asseler, Ingeborg Goethals, David Creytens, Roel Van Holen and Wouter Huvenne:** Peroperative assessment of tumor resection margins using high-resolution PET/CT in oral carcinoma, a feasibility clinical trial. World Molecular Imaging Congress, Abstracts.
- **Jens Mincke, Michiel Hubeau, Christian Vanhove, Jan Courtyn, Stefaan Vandenberghe and Kathy Steppe:** Rising atmospheric CO2 levels: a holy grail for trees or not? GEOPHYSICAL RESEARCH ABSTRACTS. 21.
- **Jolan Heyse and Pieter van Mierlo:** Evaluation of direct causality measures and lag estimations in multivariate time series. 18th National Day on Biomedical Engineering: Artificial Intelligence in Medicine, Abstracts.
- **Jolan Heyse and Pieter van Mierlo:** Simulation study of direct causality measures and lag estimations in multivariate time series. Second International Summer Institute on Network Physiology (ISINP 2019), Abstracts.
- **Kim Braeckman:** Longitudinal DTI changes following cognitive training therapy in a mild traumatic brain injury rat model. 4th Belgian Molecular Imaging Congress: meeting abstracts.
- **Lois Kay, Paulo Rauli Rafeson De Vasconcelos Caribé, Yves D'Asseler and Stefaan Vandenberghe:** Bayesian penalized-likelihood reconstruction algorithm: noise reduction study of different contrast ratios. Master of Science in Biomedical Engineering.
- **Marie-Gabrielle Goossens, Emma Christiaen, Paul Boon, Kristl Vonck, Evelien Carrette, Jana Desloovere, Chris Van Den Haute, Veerle Baekelandt, Wytse Wadman, Christian Vanhove, et al.:** Chemogenetic suppression of spontaneous seizures in a rat model for temporal lobe epilepsy. Update@Kempenhaeghe, 21st Annual international clinical symposium, Abstracts.
- **Marie-Gabrielle Goossens, Emma Christiaen, Paul Boon, Kristl Vonck, Evelien Carrette, Jana Desloovere, Chris Van Den Haute, Veerle Baekelandt, Wytse Wadman, Christian Vanhove, et al.:** Chemogenetic suppression of spontaneous seizures in a rat model for temporal lobe epilepsy. f-Tales, Abstracts.
- **Marie-Gabrielle Goossens, Emma Christiaen, Paul Boon, Kristl Vonck, Evelien Carrette, Jana Desloovere, Chris Van Den Haute, Veerle Baekelandt, Wytse Wadman, Christian Vanhove, et al.:** Chemogenetic suppression of spontaneous seizures in a rat model for temporal lobe epilepsy. Belgian Society for Neuroscience, 13th National congress, Abstracts.
- **Marie-Gabrielle Goossens, Emma Christiaen, Paul Boon, Kristl Vonck, Chris Van Den Haute, Veerle Baekelandt, Wytse Wadman, Christian Vanhove and Robrecht Raedt:** Chemogenetic suppression of excitatory hippocampal neurons in non-epileptic and epileptic rats. Research Day & Student Research Symposium.
- **Marie-Gabrielle Goossens, Paul Boon, Emma Christiaen, Kristl Vonck, Evelien Carrette, Jana Desloovere, Chris Van den Haute, Veerle Baekelandt, Wytse Wadman, Christian Vanhove, et al.:**

Chemogenetic therapy strongly suppresses hippocampal excitability and spontaneous seizures in a rat model for temporal lobe epilepsy.

EUROPEAN JOURNAL OF NEUROLOGY. 26(Supplement 1). p.416-416.

- **Mariele Stockhoff, Roel Van Holen and Stefaan Vandenberghe:** Monolithic PET detectors with sub-mm transverse and 6 layer DOI identification for next generation high resolution clinical PET scanners. EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING. 46(S1). p.S808-S808.
- **Miet De Letter, Elissa-Marie Cocquyt, Nils Knockaert, Pieter van Mierlo, Arnaud Szmalec, Wouter Duyck and Patrick Santens:** Phonologically related EEG as a more reliable diagnostic tool in the recovery of aphasia in the different stages after stroke. Society for the Neurobiology of Language, 11th Annual meeting, Abstracts.
- **Milan Decuyper, Mariele Stockhoff and Roel Van Holen:** Deep learning for positioning of gamma interactions in monolithic PET detectors. 2019 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), Abstracts.
- Paulo Rauli Rafeson De Vasconcelos Caribé, Michel Koole, Andre Diogo, Yves D'Asseler and Stefaan Vandenberghe: NEMA NU 2-2007 measurements and GATE Monte Carlo simulations of GE Signa integrated PET/MR for different PET isotopes. 8th CONFERENCE on PET/MR and SPECT/MR.
- **Tristan Baguet, Glenn Pauwelyn, Jeroen Verhoeven, Christian Vanhove, M Hassan Beyzavi and Filip De Vos:** Radiochemical synthesis approaches towards the [18F] labelling of the 1,2,3-dithiazole moiety. World Molecular Imaging Congress, Abstracts.
- **Tristan Baguet, Jeroen Verhoeven, Stef De Lombaerde, Sarah Piron, Benedicte Descamps, Christian Vanhove, M Hassan Beyzavi and Filip De Vos:** Radiosynthesis, in vitro and in vivo evaluation of [18F]fluorophenylglutamine and [18F]fluorobiphenylglutamine as novel ASCT-2 directed tumor tracers. Radiopharmaceutical Sciences, International symposium, Abstracts.

## D1

- **Kim Braeckman:** Towards diffusion MRI biomarkers for cognitive training in a mild traumatic brain injury rat model.

## U

- **Milan Decuyper and Roel Van Holen:** AI in medical imaging.
- **Mohammad Rahimi Gorji, Susmita Basak, Charlotte Debbaut, Benedicte Descamps, Pim Pullens, Patrick Segers, Steven Sourbron and Wim Ceelen:** Validation of a computational fluid dynamics model of drug delivery and interstitial fluid pressure in ovarian cancer xenografts. In Proceedings of the 5th ISSPP Workshop on Basic Science.
- **Wouter Van Lysebettens, Kristl Vonck, Lars Emil Larsen, Mathieu Sprengers, Evelien Carrette, Charlotte Bouckaert, Jean Delbeke,**

**Wytse Wadman, Paul Boon and Robrecht Raedt:** Hypothermia Masks Most of the Effects of Rapid Cycling VNS on Rat Hippocampal Electrophysiology. *Int J Neural Syst.* 29(9).