

Publications Medisip 2021

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- **Anirudh Acharya, Bram Vandekerckhove, Lars Emil Larsen, Jean Delbeke, Wytse Wadman, Kristl Vonck, Evelien Carette, Alfred Meurs, Jan Vanfleteren, Paul Boon, et al.:** In vivo blue light illumination for optogenetic inhibition: effect on local temperature and excitability of the rat hippocampus. JOURNAL OF NEURAL ENGINEERING. 18(6).
- **Anirudh Acharya, Lars Emil Larsen, Wouter Van Lysebettens, Wytse Wadman, Jean Delbeke, Kristl Vonck, Alfred Meurs, Paul Boon and Robrecht Raedt:** Attenuation of hippocampal evoked potentials in vivo by activation of GtACR2, an optogenetic chloride channel. FRONTIERS IN NEUROSCIENCE. 15.
- **Kohei Aso, Jens Maebe, Xuan Quy Tran, Tomokazu Yamamoto, Yoshifumi Oshima and Syo Matsumura:** Subpercent local strains due to the shapes of gold nanorods revealed by data-driven analysis. ACS NANO. 15(7). p.12077-12085
- **Julie Bolcaen, Benedicte Descamps, Karel Deblaere, Filip De Vos, Tom Boterberg, Giorgio Hallaert, Caroline Van den Broecke, Christian Vanhove and Ingeborg Goethals:** Assessment of the effect of therapy in a rat model of glioblastoma using [18F]FDG and [18F]FCho PET compared to contrast-enhanced MRI. PLOS ONE. 16(3).
- **Charlotte Bouckaert, Emma Christiaen, Jeroen Verhoeven, Benedicte Descamps, Valerie De Meulenaere, Paul Boon, Evelien Carrette, Kristl Vonck, Christian Vanhove and Robrecht Raedt:** Comparison of in vivo and ex vivo magnetic resonance imaging in a rat model for glioblastoma-associated epilepsy. DIAGNOSTICS. 11(8).
- **Elissa-Marie Cocquyt, Nils Knockaert, Pieter van Mierlo, Arnaud Szmalec, Wouter Duyck, Patrick Santens and Miet De Letter:** The phonological Mismatch Negativity and P300 as diagnostic tools in stroke-related aphasia recovery: a longitudinal multiple case study. APHASIOLOGY. 35(10). p.1263-1280.
- **Jens Debacker, Vanessa Schelfhout, Lieve Brochez, David Creytens, Yves D'Asseler, Philippe Deron, Vincent Keereman, Koen Van de Vijver, Christian Vanhove and Wouter Huvenne:** High-resolution 18F-FDG PET/CT for assessing three-dimensional intraoperative margins status in malignancies of the head and neck, a proof-of-concept. JOURNAL OF CLINICAL MEDICINE. 10(16).
- **Milan Decuyper, Jens Maebe, Roel Van Holen and Stefaan Vandenberghe:** Artificial intelligence with deep learning in nuclear medicine and radiology. EJNMMI PHYSICS. 8(1).
- **Milan Decuyper, Stijn Bonte, Karel Deblaere and Roel Van Holen:** Automated MRI based pipeline for segmentation and prediction of grade, IDH mutation and 1p19q co-deletion in glioma. COMPUTERIZED MEDICAL IMAGING AND GRAPHICS. 88.

- **Milan Decuyper, Mariele Stockhoff, Stefaan Vandenberghe and Roel Van Hoken:** Artificial neural networks for positioning of gamma interactions in monolithic PET detectors. PHYSICS IN MEDICINE AND BIOLOGY. 66(7).
- **Nikos Efthimiou, John D. Wright, Luke Clayton, Isaline Renard, Federico Zagni, Paulo Rauli Rafeson De Vasconcelos Caribé, Stephen J. Archibald and Christopher J. Cawthorne:** Influence of multiple animal scanning on image quality for the Sedecal SuperArgus2R preclinical PET scanner. FRONTIERS IN PHYSICS. 8.
- **Marie-Gabrielle Goossens, Lars Emil Larsen, Marijke Vergaelen, Wytse Wadman, Chris Van den Haute, Wayra Brackx, Silke Proesmans, Jana Desloovere, Emma Christiaen, Erine Craey, et al.:** Level of hM4D(Gi) DREADD expression determines inhibitory and neurotoxic effects in the hippocampus. ENEURO. 8(6).
- **Marie-Gabrielle Goossens, Paul Boon, Wytse Wadman, Chris Van den Haute, Veerle Baekelandt, Alain Verstraete, Kristl Vonck, Lars Emil Larsen, Mathieu Sprengers, Evelien Carrette, et al.:** Long-term chemogenetic suppression of seizures in a multifocal rat model of temporal lobe epilepsy. EPILEPSIA. 62(3). p.659-670.
- **Aranit Harizaj, Benedicte Descamps, Christophe Mangodt, Stephan Stremersch, Arianna Stoppa, Lieve Balcaen, Toon Brans, Hilde De Rooster, Nausikaa Devriendt, Juan Fraire, et al.:** Cytosolic delivery of gadolinium via photoporation enables improved in vivo magnetic resonance imaging of cancer cells. BIOMATERIALS SCIENCE. 9(11). p.4005-4018.
- **Jolan Heyse, Laurent Sheybani, Serge Vulliémoz and Pieter van Mierlo:** Evaluation of directed causality measures and lag estimations in multivariate time-series. FRONTIERS IN SYSTEMS NEUROSCIENCE. 15.
- **Emily Latacz, Pieter-Jan van Dam, Christian Vanhove, Laura Llado, Benedicte Descamps, Núria Ruiz, Ines Joye, Dirk Grünhagen, Steven Van Laere, Piet Dirix, et al.:** Can medical imaging identify the histopathological growth patterns of liver metastases? SEMINARS IN CANCER BIOLOGY. 71. p.33-41.
- **Jens Mincke, Jan Courtyn, Christian Vanhove, Stefaan Vandenberghe and Kathy Steppe:** Guide to plant-PET imaging using ^{11}C . FRONTIERS IN PLANT SCIENCE. 12.
- **Thomas Naert, Dieter Tulkens, Tom Van Nieuwenhuysen, Joanna Przybyl, Suzan Demuynck, Matt van de Rijn, Mushriq Al-Jazrawe, Benjamin A. Alman, Paul Coucke, Kim De Leeneer, et al.:** CRISPR-SID: identifying EZH2 as a druggable target for desmoid tumors via in vivo dependency mapping. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. 118(47).
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- **Silke Proesmans, Robrecht Raedt, Charlotte Germonpré, Emma Christiaen, Benedicte Descamps, Paul Boon, Veerle De Herdt and Christian Vanhove:** Voxel-based analysis of [¹⁸F]-FDG brain PET in rats using data-driven normalization. *FRONTIERS IN MEDICINE*. 8.
- **David Sarrut, Mateusz Bała, Manuel Bardiès, Julien Bert, Maxime Chauvin, Konstantinos Chatzipapas, Mathieu Dupont, Ane Etxebeste, Louise M Fanchon, Sébastien Jan, et al.:** Advanced Monte Carlo simulations of emission tomography imaging systems with GATE. *PHYSICS IN MEDICINE AND BIOLOGY*. 66(10).
- **Jeroen Spanoghe, Lars Emil Larsen, Erine Craey, Simona Manzella, Annelies Van Dycke, Paul Boon and Robrecht Raedt:** The signaling pathways involved in the anticonvulsive effects of the adenosine A1 receptor. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*. 22(1).
- **Jara Stalpaert, Elissa-Marie Cocquyt, Marijke Miatton, Anne Sieben, Tim Van Langenhove, Pieter van Mierlo and Miet De Letter:** A case series of verbal semantic processing in primary progressive aphasia: evidence from the N400 effect. *INTERNATIONAL JOURNAL OF LANGUAGE & COMMUNICATION DISORDERS*. 56(6). p.1165-1189.
- **Jara Stalpaert, Marijke Miatton, Anne Sieben, Tim Van Langenhove, Pieter van Mierlo and Miet De Letter:** The electrophysiological correlates of phoneme perception in primary progressive aphasia: a preliminary case series. *FRONTIERS IN HUMAN NEUROSCIENCE*. 15.
- **Latoya Stevens, Lars Emil Larsen, Wouter Van Lysebettens, Evelien Carrette, Paul Boon, Robrecht Raedt and Kristl Vonck:** Optimized parameters for transducing the locus coeruleus using canine adenovirus type 2 (CAV2) vector in rats for chemogenetic modulation research. *FRONTIERS IN NEUROSCIENCE*. 15.
- **Mariele Stockhoff, Milan Decuyper, Roel Van Holen and Stefaan Vandenberghe:** High resolution monolithic LYSO detector with 6-layer depth-of-interaction for clinical PET. *PHYSICS IN MEDICINE AND BIOLOGY*. 66(15).
- **Jelter Van Hoeck, Christian Vanhove, Stefaan De Smedt and Koen Raemdonck:** Non-invasive cell-tracking methods for adoptive T cell therapies. *DRUG DISCOVERY TODAY*.
- **Jelter Van Hoeck, Thijs Van de Vyver, Aranit Harizaj, Glenn Goetgeluk, Pieterjan Merckx, Jing Liu, Mike Wels, Félix Sauvage, Herlinde De Keersmaecker, Christian Vanhove, et al.:** Hydrogel-induced cell membrane disruptions enable direct cytosolic delivery of membrane-impermeable cargo. *ADVANCED MATERIALS*. 33(30).

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- **Samara Oliveira Pinto, Paulo Rauli Rafeson De Vasconcelos Caribé, Lucas Narciso and Ana Maria Marques da Silva:** Optimization of reconstruction parameters in [¹⁸F]FDG PET brain images aiming scan time reduction = Otimização de parâmetros de reconstrução de imagens

PET cerebrais adquiridas com [18F]FDG visando a redução do tempo de exame. REVISTA BRASILEIRA DE FÍSICA MÉDICA. 15.

- **Stefaan Vandenbergh**: Progress and perspectives in total body PET systems instrumentation. BIO-ALGORITHMS AND MED-SYSTEMS. 17(4). p.265-267

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- **Adriana Tavares, Christian Vanhove, Joost Haeck, Sandra van Tiel and Monique Bernsen**: PET/SPECT/CT. Imaging modalities for biological and preclinical research: a compendium, volume 2: parts II–IV: preclinical imaging, multimodality imaging and outlook. In IPEM–IOP series in physics and engineering in medicine and biology p.III.2.b-1-III.2.b-10.
- **Dimitris Visvikis, Michel Koole, Ian Armstrong and Christian Vanhove**: Updates in reconstruction algorithms. Advances in PET/CT imaging: a technologists' guide. p.21-29.

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- **Ghazal Adeli Koudehi, Carlos Alejandro Silvera Delgado, Matthias Van Impe, Pieter Cornillie, Christophe Casteleyn, Christian Vanhove, Charlotte Debbaut and Patrick Segers**: Modelling lymph propulsion in a 3D reconstructed murine collecting vessel with 3 lymphangions in series. 26th Congress of the European Society of Biomechanics (ESB 2021), Abstracts. p.654-654.
- **Ghazal Adeli Koudehi, Carlos Alejandro Silvera Delgado, Matthias Van Impe, Pieter Cornillie, Christophe Casteleyn, Christian Vanhove, Charlotte Debbaut and Patrick Segers**: Parametric sensitivity analysis of lymph flow in a 3D reconstructed murine collecting vessel with 3 lymphangions in series. ESAO 2021, the 47th Annual Conference of the European Society for Artificial Organs (ESAO), Uniting scientific minds towards lasting artificial organs, Abstracts.
- **Emma Christiaen, Benedicte Descamps, Robrecht Raedt and Christian Vanhove**: White matter integrity in a rat model of epileptogenesis : structural connectomics and fixel-based analysis. 16th European Molecular Imaging Meeting, Abstracts.
- **Erine Craey, Fabian Hulpia, Serge Van Calenbergh, Lars Emil Larsen, Charlotte Mathys, Inge Van Colen, Jean Delbeke, Kristl Vonck, Paul Boon, Wytse Wadman, et al.**: Optical control of excitatory transmission in hippocampal slices with photoactive adenosine A1 receptor agonist. 14th Göttingen Meeting of the German Neuroscience Society, Abstracts.
- **Erine Craey, Jeroen Spanoghe, Serge Van Calenbergh, Lars Emil Larsen, Evelien Carrette, Jean Delbeke, Kristl Vonck, Paul Boon, Wytse Wadman and Robrecht Raedt**: Feedback control of CA1 excitability in hippocampal slices with a photoactive adenosine A1 receptor agonist. SWO Midwinter Meeting 2021, Abstracts.

- **Erine Craey, Fabian Hulpia, Serge Van Calenbergh, Lars Emil Larsen, Charlotte Mathys, Inge Van Colen, Jean Delbeke, Kristl Vonck, Paul Boon, Wytse Wadman, et al.:** Optical control of excitatory transmission in hippocampal slices with photoactive adenosine A1 receptor agonist. EUROPEAN JOURNAL OF NEUROLOGY. In European Journal of Neurology 28(Supplement 1). p.222-222.
- **Paulo Rauli Rafeson De Vasconcelos Caribé, Stefaan Vandenberghe, Daniel Bonifácio, Leanderson Cordeiro and Ana Maria Marque Da Silva:** Influence of BPL-based reconstruction algorithm on image quality for quantitative 90Y-PET imaging. First Latin-American Congress on Solid State Dosimetry and Radiation Measurements, Abstracts.
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- **Lara Ibrahim, Christian Vanhove, Benedicte Descamps, Gunther van Loon and Pieter Cornillie:** Morphology of myocardial sleeves in the caudal vena cava of the horse heart. 33rd EAVA Congress, Abstracts.
- **Charlotte Thyssen, Karel Deprez, Pieter Mollet, Roel Van Holen and Stefaan Vandenberghe:** Simulation study on the feasibility of Time-over-Threshold based positioning in monolithic PET detectors. 2021 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), Abstracts.

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- **Emma Christiaen:** Longitudinal structural and functional brain network changes during epileptogenesis in a rat model of temporal lobe epilepsy
- **Milan Decuyper:** Advancing medical imaging with artificial intelligence: PET acquisition enhancement and MRI-based brain tumour diagnosis
- **Mariele Stockhoff:** Improvement of spatial resolution in monolithic detectors for clinical PET