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PhD in Medical Sciences  
2016-2017

INVITATION to the Public defence of

**Jean Pierre VAN BUYTEN**

To obtain the academic degree of '**DOCTOR IN MEDICAL SCIENCES**'

**Ganglion neurostimulation: insights, techniques and results.**

**Friday 23 June 2017**

Auditorium **Kiekens**, 17:00

Faculty of Medicine and Pharmacy, Laarbeeklaan 101, 1090 Brussel

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## Summary of the dissertation

Electric stimulation of the spinal cord has proven to be effective and safe for the treatment of certain types of chronic pain. The observation that stimulation of the Gasserian ganglion reduces trigeminal neuropathic pain, and stimulation of the pterygopalatine ganglion and/or stimulation of the occipital nerve is effective in the treatment of cluster headache, stimulated the development of a specific device allowing targeting the dorsal root ganglion for stimulation. This evolution suggests that direct or indirect stimulation of the ganglia, that are nerve cell clusters offer a more targeted treatment for different chronic pain syndromes. Stimulation of the Gasserian ganglion has been tested. The development of a custom made electrode improved the lead stability and electromagnetic imaging allows a real life control of the electrode placement.

Occipital nerve stimulation is used for the treatment of refractory headache, however the outcome seems to vary from one patient to another. Therefore we performed a phenotyping of patients who had occipital nerve stimulation to define which type of headache has a better treatment response.

The dorsal root ganglion is described to play an important role in the pain perception and transmission. Stimulating the dorsal root ganglion allows obtaining a better paresthetic coverage of the painful area. We found DRG stimulation to be effective in the treatment of CRPS

Low back pain may also be caused by weakness of the multifidus muscles, stimulation of those muscles result in a pain reduction and improvement of disability that is manifest earlier than the potential muscle recovery.

## Curriculum Vitae

Jean-Pierre Van Buyten was born on the 9th of April 1954 in Sint-Niklaas Belgium, married to Carla Koslowski, is father of 2 daughters, Stéphanie and Barbara, and has three granddaughters, Noémie, Alixe and Jackie, and one grand sun Loic.

He followed secondary school in Sint Jozef Klein Seminarie in Sint-Niklaas. In 1972 he started medical school at the Universiteit Gent (UG) and further on the Vrije Universiteit Brussel (VUB) where he graduated in 1980 cum magna laude. His Anesthesia and Intensive Care residency started in 1980 consequently in Middelheim Hospital Antwerpen, Universitair Ziekenhuis Antwerpen in the department of Professor Dr. Guillaume Haenegreefs.

He started his career as an Anesthesiologist in 1984 in Algemeen Ziekenhuis Maria Middelaars, currently AZ Nikolaas after merging with other hospitals. He was active as Anesthesiologist and Intensive Care Doctor during many years. Since his residency, he was more and more interested in the management of chronic pain. Currently he is the chairman of the Multidisciplinary Pain Center in the same hospital.

Dr Van Buyten is the author of many scientific papers and gave number of lectures during international congresses on the treatment of chronic pain. Neuromodulation therapies are his main field of interest.

Dr. Van Buyten is also actively involved in the board of many scientific societies and is currently the president of VAVP (Vlaamse Anesthesiologische Vereniging Voor Pijnbestrijding). He also serves in different advisory boards.

Apart from strictly medical activities he is involved in the board of the pension fund of Belgian caregivers (AMONIS) where he is currently vice president and president of the audit committee.