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PhD in Medical Sciences  
2018-2019

INVITATION to the Public defence of

**Jeroen GIELEN**

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

**MRI Measures in the Assessment of Cognitive Function in MS.**

**Monday 24 September 2018**

Green Room, U-residence 16:00  
VUB campus- Etterbeek, Pleinlaan 2

How to reach the campus Etterbeek:

<http://www.vub.ac.be/english/infoabout/campuses>

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## Summary of the dissertation

Multiple Sclerosis is the most commonly appearing neurodegenerative disease in young adults. It is characterized by inflammation of the central nervous system, neurodegenerative effects and demyelination. MS is characterized by a diverse set of symptoms, both physical and cognitive.

Cognitive impairment has a prevalence ranging from 43% to 70% and reduces independence, safety and has an important impact on quality of life.

Biomarkers are needed as a way to monitor cognitive impairment in MS, but they are scarce.

In this thesis we investigate three different aspects of MRI to aid in the assessment of cognitive function and hence, in the possible development of biomarkers.

## Curriculum Vitae

Jeroen Gielen (Turnhout, 18-01-1988) studied engineering at the Vrije Universiteit Brussel. He acquired a Bachelor in Engineering in Electronics and Information Technology, after which he finished the Master of Science in Biomedical Engineering at the VUB and Universiteit Gent with high distinction in 2011. Jeroen also attended many courses of the Master of Engineering in Applied Computer Sciences. In 2012, he started a PhD in Medical Sciences under supervision of Prof. Dr. Ir. Guy Nagels at the VUB. He then worked for one year as a research fellow at the National MS Center Melsbroek, under Prof. Dr. Marie B D'hooghe, before finishing the PhD presented here.