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PhD in Medical Sciences
2016-2017

INVITATION to the Public defence of

Ellen VANCUTSEM

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

**Development and evaluation of different laboratory tools
for the study of the pathogenic potential of *Ureaplasma*
species in pregnancy.**

Wednesday 21 December 2016

Auditorium **Vanden Driessche**, 17:00
Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:

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

Summary of the dissertation

Ureaplasma species are present in 40-80% of sexually mature women as a commensal in the lower genital tract. In some cases *Ureaplasma* infection can cause adverse pregnancy outcome. Much controversy remains about the role of *Ureaplasma* spp. in reproductive disorders. The high degree of colonisation without complications hampers the research for pathogenic effects.

The aim of this study was to search for cofactors important in pathogenicity and to develop laboratory methods that could be used in *Ureaplasma* pathogenicity studies.

Recombinant antigens of *Ureaplasma parvum* serotypes 3 and 6 were produced in order to study the maternal antibody response against *Ureaplasma*, a marker to be used in future studies on the prediction of adverse pregnancy outcome.

We found that the presence of an abnormal vaginal flora could act as a cofactor for the pathogenic effect of *Ureaplasma* in preterm delivery. Using a real-time PCR enabling species differentiation, we found a relation between an abnormal vaginal flora and *Ureaplasma urealyticum*, indicating a possible higher pathogenic potential as compared to *Ureaplasma parvum*.

Ureaplasma colonisation was shown to be constant along the pregnancy and vaginal samples have the highest detection rate compared to other genital sampling sites.

Additional studies are necessary to determine the best parameters for the prediction of women with a high risk on adverse pregnancy outcome due to *Ureaplasma* infection.

Curriculum Vitae

Ellen Vancutsem was born on the 9th of September 1982. After secondary school in the Koninklijk Atheneum Halle, she went to the Erasmushogeschool in Brussels. She graduated as medical laboratory technician in 2003. After this graduation she felt eager to continue her education at the Vrije Universiteit Brussel and obtained her masters degree in Biomedical Sciences in 2006. Her internship for both her bachelor and master thesis was done in the laboratory of microbiology and infection control. In 2006 she continued her work performed for her master thesis on *Ureaplasma* spp. aiming to obtain a PhD degree. In combination with this work she integrated in the routine laboratory of microbiology in the serology laboratory and afterwards in the molecular diagnostics and the Aids Reference Laboratory. In 2014 she became a staff member and became the responsible molecular biologist/virologist for the Aids Reference Laboratory of the Vrije Universiteit Brussel. This also resulted in a number of publications in the HIV field.