

The Chancellor of Ghent University has the honour of inviting you to attend the public defense of the doctoral dissertation of

**ir. Eline Vanlancker**

Title of the doctoral dissertation:

*The impact of chemotherapy on the host microbiota  
in the context of oral and gastrointestinal mucositis.*

The public defense will take place on **October 13<sup>th</sup> 2017 at 5 pm**  
in the Academieraadzaal of Aula (Volderstraat 9, 9000 Gent).

There will be a contiguous reception to which you are heartily invited.  
Please confirm your attendance before October 1<sup>st</sup> to:  
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**Dissertation supervisors**

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**Board of examiners**

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**Abstract of the doctoral research**

Although chemotherapeutic agents for cancer treatment exist already for more than 75 years, patients still have to deal with many side effects of chemotherapy. One of the major side effects is mucositis, an inflammation and ulceration of the mucosa, which can occur along the entire alimentary tract. More and more, the host microbiota are thought to play a role in mucositis and shifts in the microbiome are shown following chemotherapeutic treatment. However, it is not clear whether chemotherapeutic agents directly cause microbial dysbiosis or if the chemotherapy-disturbed host environment disturbs the microbiome.

Therefore, the aim of this PhD was to explore the impact of chemotherapy on the host microbiota in the oral cavity and the gastrointestinal tract. First, the direct effect of chemotherapeutic agents on human microbiota was investigated in two studies: i) the impact of 5-fluorouracil on oral monocultures and ii) the impact of 5-fluorouracil and irinotecan (SN-38) on a complex gut microbial ecosystem. The second part of the research focused on the interactions between the host, its microbiota and chemotherapeutic treatment by performing i) wound healing assays in an *in vitro* oral mucosa model and ii) an *in vivo* longitudinal observational study of the oral microbiome of pediatric cancer patients.

**Brief Curriculum Vitae**

Eline Vanlancker (°Deinze, Belgium, January 21<sup>st</sup> 1990) obtained her high school degree in Greek-Mathematics at the SHZMI, Deinze in 2008. In 2013 she graduated with great distinction as Master of Science in Bioscience Engineering, Chemistry and bioprocess technology, at Ghent University. She started her PhD as BOF-fellow at the Center for Microbial Ecology and Technology (CMET) in 2013. Her research focused on chemotherapy-induced mucositis and the impact of chemotherapeutic agents on the host microbiota in the oral cavity and the gastrointestinal tract. During her PhD, Eline spent one month as a visiting scientist at the University of South Australia (Adelaide, Australia).

During her PhD Eline Vanlancker successfully guided four students during their graduation research project and she was responsible for the practical exercises of the course Host-Microbe interactions. Eline presented her research on several national and international symposia and won a prize for one of her oral presentations. She is author and co-author of several scientific articles published in international peer reviewed journals.