

# Annual report 2017 of ACLC research group: *Oncology-related communication disorders*

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*Coordinator:* Prof. Dr. Michiel van den Brekel

*Web page:* [Hoofd Hals Centrum AVL](#)  
[Oncology – related communication disorders](#)

*Current external funding:*

- Long term funding from Atos Medical Sweden
- Verwelius Stichting Naarden
- Stichting de Hoop

*Participants in 2017:*

- prof. dr. Michiel van den Brekel (NKI/AVL & ACLC), senior researcher, coordinator
- prof. dr. Olga Fischer (ACLC), senior researcher
- prof. dr. Frans Hilgers (NKI/AVL & ACLC)
- dr. Rob van Son (NKI/AVL & ACLC), senior researcher
- dr. Anne Bannink (ACLC), senior researcher
  
- dr. Lisette van der Molen (External members: NKI/AVL), senior researcher
- Prof. dr. Jean-Pierre Martens (External members: DSSP-ELIS Ghent University), senior researcher
- dr. Catherine Middag (External members: DSSP-ELIS Ghent University), senior researcher
- dr. Gwen van Nuffelen (External members: Antwerp University Hospital), senior researcher
  
- Renee Clapham (NKI/AVL & ACLC), PhD candidate on Rob van Son's project, September 2010 – November 2017
- Klaske van Sluis (NKI/AVL & ACLC), PhD candidate on Rob van Son's and Lisette van der Molen's project, September 2015
- Manon van der Laaken (ACLC), PhD candidate on Michiel van den Brekel's project, September 2016

#### *Description of the research group:*

One of the key aims of these research projects is to investigate if, and how, speakers learn to compensate for changes in speech and voice as a result of head and neck cancer. It is assumed that physiological limitations constrain certain communicative and language functions, which can impact language behaviour. All research has a clinical focus and there are strong ties between the ACLC and the Netherlands Cancer Institute-Antoni van Leeuwenhoek. There is extensive collaboration with the DSSP-ELIS at Ghent University and the Antwerp University Hospital.

This research has five major branches:

- Phonetics of oncology-related pathological speech
- Automatic evaluation of oncology-related pathological speech (collaboration with Ghent University)
- Tele-Health applications and tools for Speech and Language Therapists collaboration with Ghent University and Antwerp University Hospital)
- Tools and resources for Speech Research and Speech and Language Therapists
- Conversation analysis of physician-patient interaction

#### *Current PhD projects*

- Predicting substitute voice source characteristics after laryngectomy. **Klaske van Sluis**
- Automatic evaluation of voice and speech intelligibility following treatment of head and neck cancer. **Renee Clapham**
- Physician-Patient communication about quality of life in head and neck cancer consultations. **Manon van der Laaken**

#### *Research highlights in 2017:*

- In November, **Renee Clapham** defended her thesis *Automatic evaluation of voice and speech intelligibility after treatment of head and neck cancer*. Her thesis research was an important step in a long-term collaborative research effort to create a practical tool for the objective and automatic evaluation of disordered speech. This evaluation tool has been made available in the ASISTO project in which we participated together with Ghent University and Antwerp University Hospital.
- **Klaske van Sluis** published *Objective and subjective voice outcomes after total laryngectomy: a systematic review* where she compared voice quality after laryngectomy for speakers using esophageal speech, a voice prosthesis, or an electro larynx. She presented her research at the 2017 Pan European Voice Conference (PEVoC12), Ghent, Belgium and at the 2017 Young Scientist Meeting - Dutch Head and Neck Society, Rotterdam, The Netherlands.
- **Manon van der Laaken** presented her research at the 2017 OCHER meeting in Oslo, at the IPra2017 conference in Belfast and at the IADA2017 conference in Bologna, showing some of the affordances and constraints of the use of the

Lastmeter/Distress Thermometer as a tool to facilitate the discussion of psychosocial issues during cancer follow-up consultations.

- **Student Eric Shek** performed an internship studying the possibilities of synthesizing speech after total laryngectomy (Research Master Linguistics at Leiden University) and **Marijn Kapitein** performed an internship comparing voicing in speech before and after total laryngectomy (Bachelor Linguistics at the University of Amsterdam). Supervision for both students was provided by Klaske van Sluis and Rob van Son.
- In 2017, the *Training Network on Automatic Processing of Pathological Speech* (TAPAS) was awarded a grant from the *Horizon 2020 research and innovation* (H2020 - MSCA - ITN – ETN). We are a partner in this European consortium and this grant will fund an early stage researcher in our group to investigate the possibilities for predicting and synthesizing speech after treatment for oral tumors. As part of the preparations for this project, Rob van Son participated in the CLARIN Workshop *DELAD: Database Enterprise for Language And speech Disorders in Cork, Ireland*, about the legal and practical challenges of sharing speech data in a clinical setting.

*Societal relevance:*

Interactions in doctor-patient communication are a hot topic in psychosocial medicine. Our emphasis on conversation analysis and language aspects is quite new and will bring insights that can contribute to better interaction. This of course has an important impact on society. The development of tools to better assess and train patients with communication handicaps aims to have an impact on treatment. If indeed this will lead to better outcome, social functioning and quality of life, its impact in society is substantial.