





**School of Behavioural and**

**Cognitive Neurosciences**

BCN Symposium

**A Comprehensive Update on Invasive and Non-Invasive Neuromodulation**

**from Molecule to Mind**

October 12 2017

Groningen

The Netherlands

The Netherlands

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| BCN | BCN Cross-Disciplinary Symposia |
| The School of Behavioural and Cognitive Neurosciences (BCN) is a research and training center for the study of normal and pathological processes of the nervous system at the University of Groningen, the Netherlands. | BCN organizes special symposia which are part of the obligatory education program of our PhD students and appreciated meeting platforms for our senior scientists.  |
| Our main objectives are twofold: * to initiate, stimulate and integrate scientific research on the biological bases of behavioural and cognitive processes
* to provide our PhD students with an integrated training program consisting of courses, lectures, master classes, workshops, seminars, symposia and multidisciplinary research

Some 300 senior researchers, 46 postdoctoral researchers and about 220 PhD students from five faculties within the University of Groningen participate in BCN. Research ranges from molecular processes to the whole organism and from yeast to humans.  | With these symposia we aim to:* demonstrate the value of interdisciplinary research by approaching a single theme, central to BCN, from different angles.
* encourage discussion of members of different research faculties, particularly graduate students.
* inform BCN members about the state of their relevant research topics.
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**Theme**

**A Comprehensive Update on Invasive and Non-Invasive Neuromodulation**

**from Molecule to Mind**

With the unprecedented increase of neuro-scientific knowledge we are entering an era in which the nervous system can be modulated with an unmet precision. Currently, a plethora of disciplines is involved in applying neuromodulation in a wide range of neuro-psychiatric diseases. One of the most striking examples of this increased attention are the renaissance of neuromodulation in psychiatry and the rapidly expanding indications and techniques applied in deep brain stimulation. This progress has been realized by the continuous interplay between basic and clinical science. In our symposium we will provide a comprehensive update on both invasive and non-invasive neuromodulation from both a clinical and basis scientific perspective. Finally, we will also address the ethical aspects involved in neuromodulation in an interactive closing session.

**Program - morning**

Location: Blauwe Patio

08:45 – 09.25 *Registration*

Location: Rode Zaal, UMCG

09:25 – 09:30 Opening

09:30 – 10:00 **Prof. Peter Brown** (University of Oxford)

 *Towards adaptive DBS in Parkinson’s Disease*

10:00 – 10:30 **Dr. Freek Hoebeek** (Erasmus University)

 *Cortical Effect of Cerebellar Neuromodulation: From Basic Neuroscience*

 *to Seizure Control*

10:30 – 11:00 *Coffee break*

11:00 – 11:30 **Prof. Elena Moro** (University of Grenoble)

*New indications and Targets for DBS in Movement Disorders*

11:30 – 12:00**Prof. John Rothwell** (University College London)

 *TMS: from basic mechanisms towards clinical applications*

12:00 – 13:00  *Lunch break*

**Program – afternoon**

**Parallel sessions**

Location: room 16, Onderwijscentrum, UMCG

13:00 – 13:30 **Marinus Oterdoorn** (University Medical Center Groningen)

 *NBM stimulation as a target for cognitive sequelae in Parkinsons disease*

13:30 – 14:00 **Wieke Eggink** (University Medical Center Groningen)

 *Measuring the effectiveness of DBS in dystonia, a goal-oriented approach.*

14:00 – 14:30 **Dr. Fiorella Contarino** (University of Leiden)

*DBS, spatial aspects*

14:30 – 15:00 **Dr. Martijn Beudel** (University Medical Center Groningen)

 *DBS: Meganism of Action*

Location: Ronde Zaal, UMCG

13:00 – 13:30  **Prof. Steven Van Gils** (University of Twente)

 *Computational Modelling in DBS*

13:30 – 14:00 **Dr. Mariska Vansteensel** (University of Utrecht)

 *A brain-implant for communication in severe paralysis: Performance*

 *and usability*

14:00 – 14:30 **Prof. Gertjan van Dijk** (University of Groningen)

 *DBS as treatment for Obesity*

14:30 – 15:00 **Dr. Bernadette van Wijk** (Charité University Hospital)

 *Advanced Neurophysiological Biomarkers for DBS*

Location: Rode Zaal, UMCG

13:00 – 13:30  **Dr. Branislava Curcic** (University Medical Center Groningen)

 *tECS in Neuropsychiatric Disorders*

13:30 – 14:00 **Prof. Eddy van der Zee** (University of Groningen)

 *Multi-sensory brain stimulation and neuromodulation by way of mild whole*

*body vibration*

14:00 – 14:30 **Prof. Michel van Putten** (University of Twente)

 *TMS in Epilepsy*

14:30 – 15:00 **Dr. Jacco de Haan** (University Medical Center Groningen)

 *Neuromodulation of the Autonomous Nervous System*

15:00 - 15:30 *Coffee break*

**Plenary Sessions**

Location: Rode Zaal, UMCG

15:30 – 16:00  **Dr. Dennis Schutter** (Radboud University)

 *Neuroenhancement*

16:00 – 16:30 **Dr. Els Maeckelberge** (University Medical Center Groningen)

 *Ethics in Neuromodulation*

Location: Blauwe Patio

16:30 – 17:00 *Drinks*

