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COST Action EMF-MED
European network for innovative uses of non-ionizing electromagnetic fields
in biomedical applications


**Progress report on WM Vagus Nerve Stimulation:
research and collaborations**

Prof. Eugenijus Kanisus, DI Stefan Kampusch
Vienna University of Technology, Austria

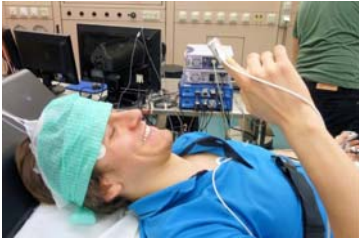


 **cost**
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY


Madrid, 2015

Content - WM Vagus Nerve Stimulation 

- ▶ **WM challenges**
- ▶ **Collaborations / Research**



WM challenges

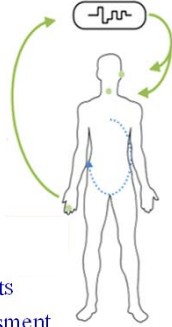


▶ **Personalized adaptive stimulation patterns**
effects/insights in different mechanisms/pathologies/therapies


▶ **Specific stimulation**
selective/novel stimulation of nerves/sympathovagal regulation with limitation of adaptation processes

▶ **Objective markers for stimulation efficiency**
- monitoring of short-term up to long-term physiological effects
- disease/symptom specific, multiparametric, and robust assessment

▶ **Biofeedback controlled stimulation**
closed-loop/adaptive/synchronized stimulation




Content - WM Vagus Nerve Stimulation



▶ **WM challenges**

▶ **Collaborations / Research**



Collaborations / Research 

▶ Our LAST slide in Split, 2014

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Contributors

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Collaborations / Research 

 COMPLUTENSE UNIVERSITY OF MADRID

 PAN
POLSKA AKADEMIA NAUK

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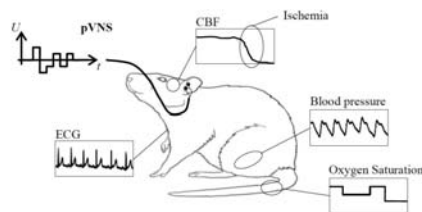
Collaborations / Research



► Complutense University of Madrid



- Prof. **Fivos Panetos**, Sandra Medrano, etc.
- Topic 1: Basic research on VNS
- Topic 2: VNS effects on ischemia



Collaborations / Research

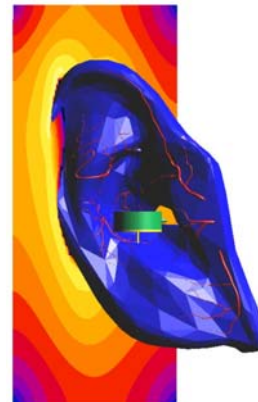


► Ghent University / IMinds INTEC-WICA




- Prof. **Wout Joseph**, Dr. Emmeric Tanghe.
- Topic: Auricular VNS in peripheral vascular disease

Joint PROJECT PROPOSAL submitted :)




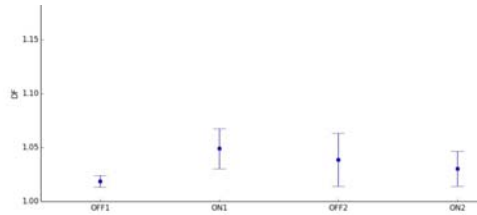
Collaborations / Research



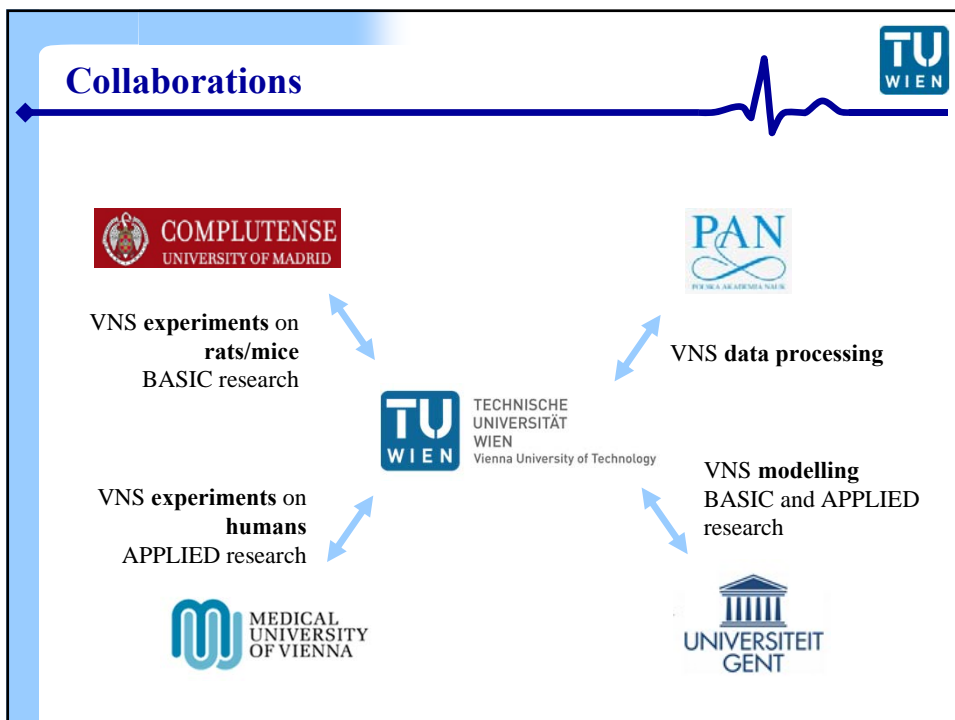
► **Polish Academy of Sciences Medical Research Center**

- Prof. **Włodzimierz Klonowski**, Pawel Stepien
- Topic: Non-linear fractal analysis of VNS data in diabetes





Category	Mean Value (approx.)	Error Bar Range (approx.)
OFF1	1.02	1.01 - 1.03
ON1	1.05	1.03 - 1.07
OFF2	1.04	1.02 - 1.06
ON2	1.03	1.01 - 1.05



Collaborations / Research 

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Grants € / \$

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