



**CoBeN**

**Novel Network-Based Approaches for Studying Cognitive Dysfunction in Behavioural  
Neurology**

*H2020-MSCA-RISE-2016-734718*

**D5.4 – Project website**

Work Package: WP5  
Task: -  
Deliverable due 30.4.2017  
date:  
Responsible partner: MU  
Deliverable number: D4.5  
Deliverable type: R  
Dissemination level: PUB

This deliverable is a report on a structure and content of CoBeN project website that has been set up on a CEITEC domain and uploaded to this location: <http://coben.ceitec.cz/>

*A screenshot of the title landing site of CoBeN*



Project Kick-off Meeting  
13.06.2017  
[Read more >](#)

### About project

The project will employ **novel behavioral paradigms** and **state-of-the-art imaging techniques** to:

- identify neural underpinnings of language, speech and cognitive impairment in different patient groups (stroke, Parkinson's disease, dementia) across three languages (Czech, English, Hungarian),
- unravel the therapeutic potential of NIRS (non-invasive brain stimulation) by targeting and

The main horizontal menu consist of the following items:

- 1) **PROJECT**
- 2) **WHO WE ARE**
- 3) **EVENTS**
- 4) **MEDIA**
- 5) **CONTACTS**
- 6) **LINKS**

Based on our experience with similar project, we regards this layout as adequately clear and sufficient.

However, this basic structure may change during the implementation for us to achieve a more immediate impact and time-on-site (e.g. once we have first results, the “Results” item can be moved directly to the main horizontal menu).

Project administrator is in charge of the website administration and develops the content together with the project coordinator, project manager and specified junior members of the team.

Details on the concept of the individual sites and screenshots of their current appearance is presented below.

## 1) PROJECT (<http://coben.ceitec.cz/summary/>)

- The **project summary** – a brief introduction based on the abstract of CoBeN
- Plans and **objectives** of the project – the overarching aim of the activity and specific objective of each work-package
- A list of completed **secondments**, secondments being carried out, and secondments planned for the next 12 months; this site will also contain reports of seconded staff adopted in a way that can be presented to general public
- **Results** – the results of CoBeN, be it publications, dissemination activities or other notably outcome will be presented under this section

*A screenshot of the PROJECT site*

The screenshot displays the CoBeN website interface. At the top left is the CoBeN logo, which includes the European Union flag and a brain icon. A navigation menu at the top right contains links for 'PROJECT', 'WHO WE ARE', 'EVENTS', 'MEDIA', 'CONTACTS', and 'LINKS'. The 'PROJECT' link is active, and a dropdown menu shows 'Summary', 'Plans and objectives', 'Secondments', and 'Results'. Below the navigation, a breadcrumb trail reads 'PROJECT > PLANS AND OBJECTIVES'. The main heading is 'Plans and Objectives'. The 'General Goal' section states: 'We will employ **Behavioural Neurology approaches** to study universal, language-specific, and disease-specific neural network architectures underlying reading/spelling, motor control of speech and handwriting, and visual processing. Prof. Rapcsak's (UofA) knowledge and expertise lies specifically in Behavioural Neurology which does not exist as a clinical specialization in either the Czech Republic (MU) or Hungary (USZ). This will be the main transfer of knowledge to our European countries. Our work is split into 5 WPs.' The 'WP1 Universal and language-specific neural network architectures for reading and spelling' section describes the goal: 'The overarching goal of our research project is to identify similarities and differences in neural network architectures for reading and spelling in shallow (Czech and Hungarian) vs. deep (English) orthographies by exploring, for the first time, whether variations in orthographic depth have a measurable impact on patterns of regional brain activation and network connectivity during reading/spelling in normal subjects and on the behavioural profiles and lesion correlates of acquired alexia/agraphia in neurological patients.' The 'Specific aims' section lists two points: 'To conduct a cross-linguistic functional imaging study of reading and spelling in healthy English, Czech, and Hungarian speakers to determine whether orthographic depth has an influence on patterns of brain activation and network connectivity.' and 'To conduct a cross-linguistic study of written language processing in English, Czech, and Hungarian speakers with aphasia due to stroke or neurodegenerative disease (AD/PPA) to determine whether orthographic depth has an influence on the behavioural profiles and lesion correlates of acquired alexia/agraphia.' The sidebar on the right shows a social media feed for 'CF MAFIL' with a post about a bulletin and a link to a bit.ly URL.

**Plans and Objectives**

General Goal

We will employ **Behavioural Neurology approaches** to study universal, language-specific, and disease-specific neural network architectures underlying reading/spelling, motor control of speech and handwriting, and visual processing. Prof. Rapcsak's (UofA) knowledge and expertise lies specifically in Behavioural Neurology which does not exist as a clinical specialization in either the Czech Republic (MU) or Hungary (USZ). This will be the main transfer of knowledge to our European countries. Our work is split into 5 WPs.

**WP1 Universal and language-specific neural network architectures for reading and spelling**

The overarching goal of our research project is to identify similarities and differences in neural network architectures for reading and spelling in shallow (Czech and Hungarian) vs. deep (English) orthographies by exploring, for the first time, whether variations in orthographic depth have a measurable impact on patterns of regional brain activation and network connectivity during reading/spelling in normal subjects and on the behavioural profiles and lesion correlates of acquired alexia/agraphia in neurological patients.

**Specific aims:**

- To conduct a cross-linguistic functional imaging study of reading and spelling in healthy English, Czech, and Hungarian speakers to determine whether orthographic depth has an influence on patterns of brain activation and network connectivity.
- To conduct a cross-linguistic study of written language processing in English, Czech, and Hungarian speakers with aphasia due to stroke or neurodegenerative disease (AD/PPA) to determine whether orthographic depth has an influence on the behavioural profiles and lesion correlates of acquired alexia/agraphia.

**WP2 Motor networks for speech production**

## 2) WHO WE ARE

This section give a brief introduction of:

- The **labs** involved in the project implementation presenting their main research foci and their role in the project
- The **researchers** involved in the project implementation presenting a brief profile of each researcher and a portrait photograph. The profiles usually include also link to further information on the researcher, be it ResearchGate link or a profile on a institutional website. This gives the researcher working on the project an opportunity to presented themselves and increase their recognition in the field, which is one of the MSCA overarching goals

### *A screenshot of the WHO WE ARE site*

CoBeN


spektrální magnetická rezonance  
[ResearchGate profile](#)

PROJECT **WHO WE ARE** EVENTS MEDIA CONTACTS LINKS

Researchers

Labs


**Patrícia Klobušiaková**



Patrícia is a student of General Medicine at Masaryk University (Brno), a participant of pilot MD/PhD programme. In her research she focuses on neurodegenerative diseases imaging using various MRI techniques.

In CoBeN project she works on MR data analysis (also acquirement) and the interpretation of results.

**Martin Gajdoš**




Martin graduated from Brno University of Technology in Biomedical Engineering and Bioinformatics, 2012. He is part of the Core Facility CF MAFIL. His research focuses mainly on development of methods for analysis of fMRI data.

In CoBeN he participates in statistical analysis of behavioral data and in GLM and connectivity analyses of fMRI datasets.

[ResearchGate profile](#)

**Alžběta Minsterova**



Alžběta graduated from Brno University of Technology in Biomedical Engineering and Bioinformatics. Currently she is a PhD student in Applied Neuroscience Research Group. She focuses mostly on diffusion and functional MRI and neurodegenerative disorders such as Alzheimer's and Parkinson's disease and related dementias.

Within CoBeN she is involved in MR data acquisition and analysis of the image data.

[ResearchGate profile](#)  
[ResearcherID profile](#)

CF MAFIL  
104 To se mi líbí

Tohle se mi líbí

CF MAFIL  
asi před 5 měsíci

### 3) EVENTS

This site is to present events organised in the framework of CoBeN project. For users' convenience and quick orientation, the Events are divided into „past“ and „upcoming“.

This will include primarily workshops for scientific community, but also events aimed at general public, as describe in the WP5 on dissemination.

In some relevant and well justified cases, we may presented here also contributions to conferences or other dissemination activities resulting from the project.

*A screenshot of the EVENTS site*

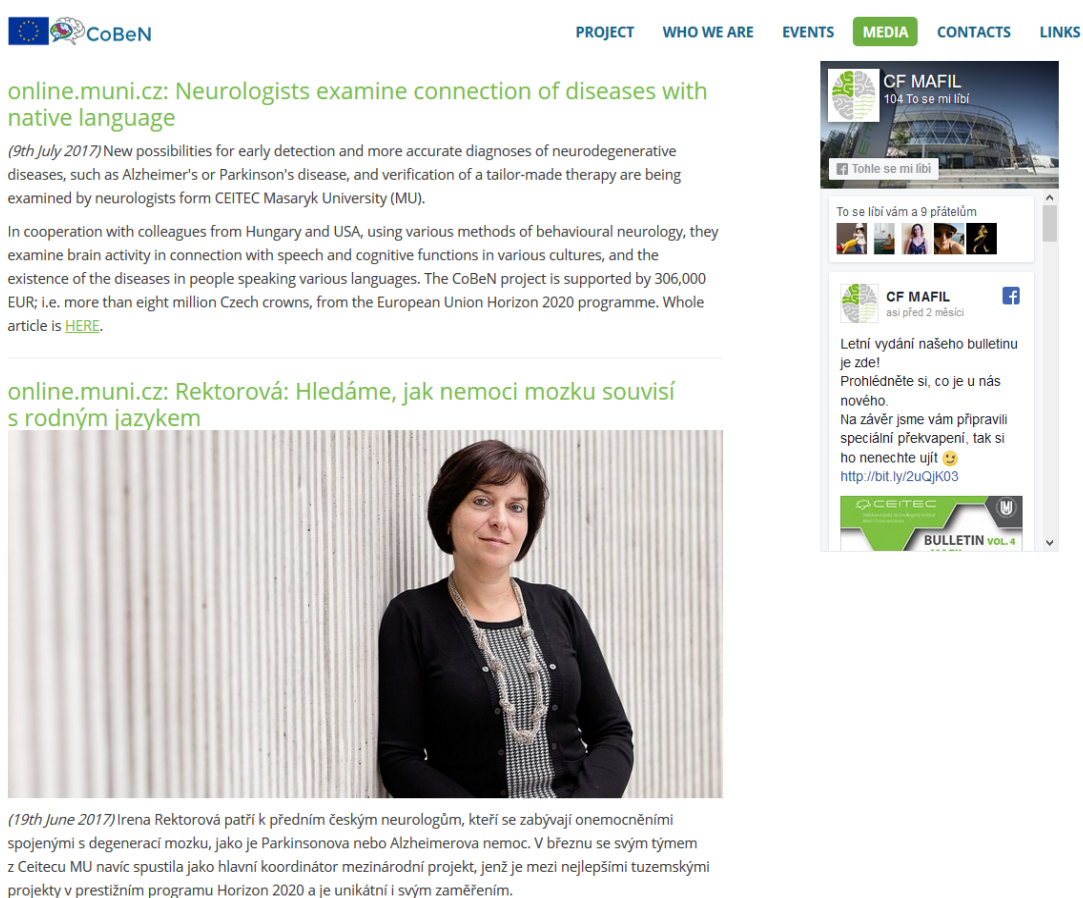
The screenshot displays the CoBeN website's 'EVENTS' section. At the top, there is a navigation bar with the following items: PROJECT, WHO WE ARE, **EVENTS** (highlighted in green), MEDIA, CONTACTS, and LINKS. Below the navigation bar, there are two sub-menus: 'Past Events' and 'Upcoming Events'. The main content area on the left shows a breadcrumb trail 'HOME > EVENTS', the heading 'Events', and a placeholder text: 'Zde si můžete doplnit obsah nového článku.' On the right, a featured event post is visible. The post is titled 'CF MAFIL 104 To se mi líbí' and includes a 'Facebook Like' button. Below the image, the text reads: 'Chcete si vyzkoušet zajímavou a moderní vyšetřovací metodu a přispět k neurovědnímu výzkumu?' followed by a list of benefits and requirements. The post is attributed to 'CF MAFIL' and dated 'asi před 3 měsíci'.

#### 4) MEDIA

The site is dedicated to any media content to be generated throughout the project implementation. This include not only outputs planned in the Description of Work (WP5), but also any other media content directly or indirectly related to CoBeN-related team and topics.

The goal is to not only promote the project, but also the partners, their research activities and future plan. To overall aim is to develop further collaboration and increase international recognition in the field of behavioural neurology and neuroscience.

*A screenshot of the MEDIA site*



The screenshot shows the CoBeN website's MEDIA section. At the top, there is a navigation menu with links for PROJECT, WHO WE ARE, EVENTS, MEDIA (highlighted), CONTACTS, and LINKS. The CoBeN logo is in the top left corner.

The first article is titled "online.muni.cz: Neurologists examine connection of diseases with native language". The text below the title states: "(9th July 2017) New possibilities for early detection and more accurate diagnoses of neurodegenerative diseases, such as Alzheimer's or Parkinson's disease, and verification of a tailor-made therapy are being examined by neurologists from CEITEC Masaryk University (MU). In cooperation with colleagues from Hungary and USA, using various methods of behavioural neurology, they examine brain activity in connection with speech and cognitive functions in various cultures, and the existence of the diseases in people speaking various languages. The CoBeN project is supported by 306,000 EUR; i.e. more than eight million Czech crowns, from the European Union Horizon 2020 programme. Whole article is [HERE](#)."

The second article is titled "online.muni.cz: Rektorová: Hledáme, jak nemoci mozku souvisí s rodným jazykem". Below the title is a photograph of Irena Rektorová, a woman with short dark hair, wearing a black top and a necklace. The text below the photo states: "(19th June 2017) Irena Rektorová patří k předním českým neurologům, kteří se zabývají onemocněními spojenými s degenerací mozku, jako je Parkinsonova nebo Alzheimerova nemoc. V březnu se svým týmem z Ceitecu MU navíc spustila jako hlavní koordinátor mezinárodní projekt, jenž je mezi nejlepšími tuzemskými projekty v prestižním programu Horizon 2020 a je unikátní i svým zaměřením."

On the right side of the screenshot, there is a Facebook post from the page "CF MAFIL". The post has 104 likes and is from "asi před 2 měsíci". The text of the post reads: "Letní vydání našeho bulletinu je zde! Prohlédněte si, co je u nás nového. Na závěr jsme vám připravili speciální překvapení, tak si ho nenechte ujít 😊 <http://bit.ly/2uQJK03>". Below the text is a thumbnail for "BULLETIN VOL. 4" with the CEITEC logo.

## 5) CONTACTS

This site provides a quick information on the main contact persons of the project, specifically the coordinator, Principle investigators at the partner institutions and the team related to the management of the project.

*A screenshot of the CONTACTS site*

The screenshot displays the CoBeN website's 'CONTACTS' page. At the top left, there is a logo featuring the European Union flag and a stylized brain with a globe inside, followed by the text 'CoBeN'. To the right, a navigation menu includes 'PROJECT', 'WHO WE ARE', 'EVENTS', 'MEDIA', 'CONTACTS' (highlighted in green), and 'LINKS'. Below the navigation, the page is divided into sections: 'Coordinator', 'Principle Investigators', and 'Project Management'. The 'Coordinator' section features a profile picture of prof. MUDr. Irena Rektorová, Ph.D., along with her contact details: Email: irena.rektorova@ceitec.muni.cz and Phone: +420 54949 7825. The 'Project Management' section shows a social media feed with posts from 'CF MAFIL', including a post about a new 'Respekt' article and another about brain research on aggression.

## 6) LINKS

This site has been added to promote the project and topic related websites and information and is to be build up gradually throughout the project.

*A screenshot of the LINKS site*

The screenshot shows the CoBeN website interface. At the top left is the European Union flag and the CoBeN logo. The navigation menu includes 'PROJECT', 'WHO WE ARE', 'EVENTS', 'MEDIA', 'CONTACTS', and 'LINKS'. The 'LINKS' section is active, displaying 'Useful Links' and a link to 'Information about project at [CORDIS website](#)'. A large image of a building is shown, with the text 'CF MAFIL 104 To se mi líbí' and 'Tohle se mi líbí' overlaid. Below the image is a section titled 'Chcete si vyzkoušet zajímavou a moderní vyšetřovací metodu a přispět k neurovědnímu výzkumu?' (Do you want to try an interesting and modern diagnostic method and contribute to neuroscientific research?). The text lists benefits and requirements for the research.