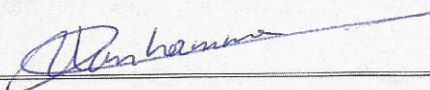
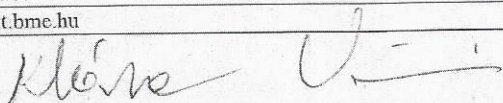


CELSA - Collaborative research project - Application form - COVER PAGE

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3. Identification of third and fourth co-investigator(s) (if applicable)	
Expand table if more than four research units are involved.	
Third co-investigator	Fourth co-investigator
Full name:	Full name:
Faculty/Department:	Faculty/Department:
Research unit within Faculty/Department:	Research unit within Faculty/Department:
Address:	Address:
University:	University:
Tel:	Tel:
Fax:	Fax:
email:	email:
Signature ¹ :	Signature ¹ :

¹ Faxed signatures will be accepted.

3. Non confidential and public friendly summary (max. 2000 characters)

Project title: PaSDiS - Models of Pathological Speech for Diagnosis and Speech Recognition

Summary:

Speech disorders affect many people in our society. They cause communication difficulties and social isolation. Speech disorders have a variety of causes: malformation of organs, surgery, neurological diseases or a stroke. Modelling these forms of pathological speech is relevant for the medical field, e.g. diagnosis, quantification of the severity of the condition and in therapy. Automatic recognition of pathological speech is useful for building communication devices that transform disordered speech into normal speech and for building assistive command-and-control devices in smart homes, to increase autonomy, comfort and safety in case the speech impairment co-occurs with physical impairment of the limbs.

This collaborative project will deepen of scientific knowledge in modelling pathological speech with the goal of advancing the state of the art in two fields:

A. In the development of cross-lingual automatic speech diagnostic systems that can detect organic (dysphonia) and functional speech disorders (dysarthric speech as caused by e.g. Parkinson's disease and multiple sclerosis) based on statistical processing of different speech parameters. We will investigate early detection and quantification of the severity of the disease.

B. in automatic speech recognition for disordered speech, i.e. extraction of the verbal content into text or semantics. The state of the art requires users to enroll their voices and the goal is to minimize the duration of this phase, i.e. showing better accuracy under shorter enrollment in Dutch and Hungarian.

The collaboration will strengthen a R&D proposals in the AAL programme and in future H2020 calls concerning medical decision support systems, social inclusion, assistive technology, user interfaces, service robots, and challenges related to demographic change.

4. List 5 key words

Speech processing, disordered speech, diagnostics, assistive technology, machine learning,