



1st Capacity building workshop

General overview

Nicolae LUCANU

Technical University Gheorghe Asachi from
Iasi



This project has received funding from the European Union's Horizon 2020 programme for coordination and support action under grant agreement No 952378.



Project Overview

BrainTwin

Development of a World-Level Neuroengineering Research Centre by European Twinning

WIDESPREAD-05-2020: Twinning

Scope: Twinning aims at significantly strengthening a defined field of research (neuro-engineering) in a university (Technical University Gheorghe Asachi from Iasi - TUIASI) or research organisation from a Widening country (Romania) by linking it with at least two internationally-leading research institutions from two different Member States or Associated Countries (Fraunhofer from Germany and Salamanca University from Spain).



Project Overview

PROJECT CONSORTIUM

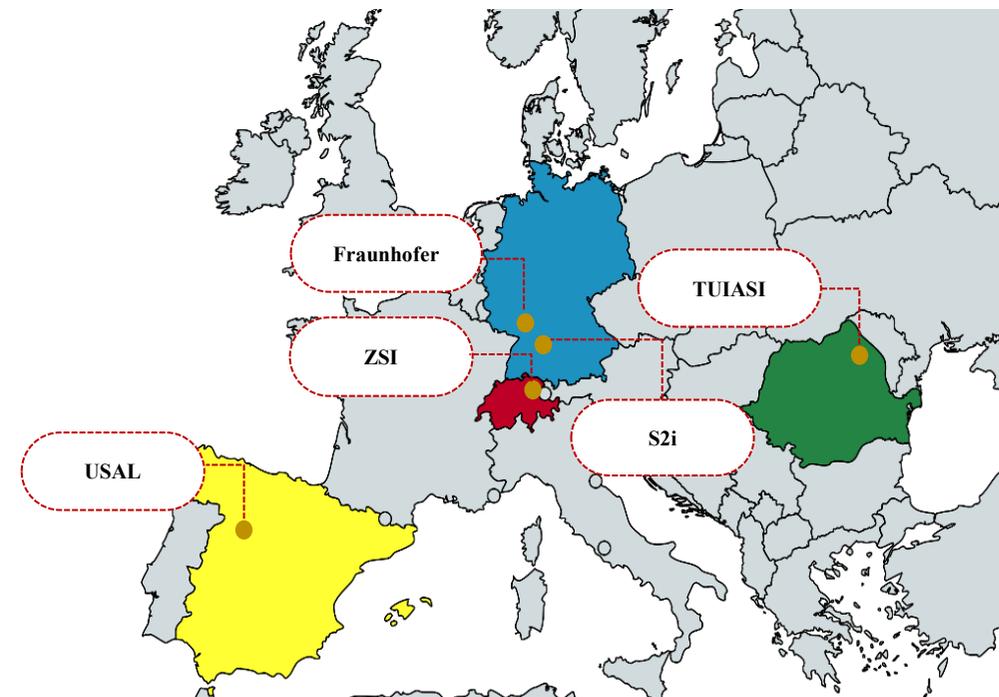
- Technical University Gheorghe Asachi from Iasi (Romania) – Coordinator
- Project Group for Automation in Medicine and Biotechnology PAMB from Fraunhofer IPA (Germany)
- The Institute of Neurosciences of Castilla y Leon from the University of Salamanca (Spain)
- Steinbeis 2i (Germany)
- Centre for Social Innovation (Austria)

PROJECT DURATION

- 36 months

PROJECT BUDGET

- 900.000 €



Project Overview

The main objective of BrainTwin is to address the preparatory tasks necessary to establish a new world-level centre for research and education in the field of Neuroengineering. It will focus on three main challenges in the patient medical care process:

- early detection of progressive neurodegenerative disorders,
- Improved diagnostic and therapeutic procedures like surgery including cooperative robotics
- e-instruments for life quality improvement of the patients



Project Overview



BrainTwin methodology - project WPs

WP3. Enhancing the scientific and technological capacity

This work package aims to develop a strategy for stepping up scientific excellence and innovation capacity of TUIASI in the field of neuro-engineering

There are three major objectives:

- 1) To train researchers, especially early stage researchers from TUIASI, to scientific approaches including a wide range of multidisciplinary state-of-the-art methods in neuro-engineering;
- 2) To improve the staff skills in writing protocols to formalize methods and approaches, making good presentations and establishing successful scientific collaborations;
- 3) To train research staff members, through expert visits and attendance of scientific meetings, in specifying and focusing their scientific tasks, thereby improving S&T and innovation capacity of TUIASI and linked institutions.

WP3. Tasks

WP3. Enhancing the scientific and technological capacity (Fraunhofer) (M1-M36)

Task 3.1 Twinning Coordination Board (Fraunhofer)

Task 3.2 Capacity building workshops (Fraunhofer)

Task 3.3 Short term staff exchanges (TUIASI)

Task 3.4 Short-term expert visits (USAL)

Task 3.5 Transferring scientific excellence through attending targeted meetings and conference (TUIASI)

Task 3.2 Capacity building workshops

Workshops will be centered on capacity building and transfer of knowledge, methodology and current approaches as well as on developing and documenting research protocols.

- **Workshop1 - the Consortium members meet each other, learn about the current scientific infrastructure in Romania, analyse particular situation in TUIASI, and to elaborate a precise and specific plan of how the overall project line will develop.**
- **Workshop2 - Participants: group leaders, staff members, young researchers and students from TUIASI and all Participants.**
- **Workshop-3 - Will analyse the progress in the project development and success in the execution of major tasks, as well as will work out new ideas for the following collaboration between the groups involved.**

1st Capacity building workshop

Aims:

- 1) Meet each other;
- 2) Exchange research interests;
- 3) Identify mutual interest topics;
- 4) Identify possible project ideas;
- 5) Identify topics for Ph. D. students visits.



12 Universities and Research Institutes

23 Research Teams

1st Capacity building workshop

PARTICIPANT TEAMS

ROMANIA

- Technical University Gheorghe Asachi from Iasi
 - Automatic Control and Computer Engineering Faculty
 - Electronics, Telecommunications & Information Technology Faculty
 - Electrical Engineering Faculty
 - Industrial Design and Business Management Faculty
 - Mechanical Engineering Faculty
 - Chemical Engineering & Environmental Protection Faculty
- "Grigore T. Popa" University of Medicine and Pharmacy Iasi
 - Advanced Center for Research and Development in Experimental Medicine CEMEX
 - Faculty of Medical Bioengineering

1st Capacity building workshop

PARTICIPANT TEAMS

GERMANY

- Fraunhofer Institute for Manufacturing Engineering and Automation IPA
 - Project Group for Automation in Medicine and Biotechnology PAMB (Mannheim)
- Fraunhofer Institute for Computer Graphics Research IGD (Darmstadt)
- Fraunhofer Institute for Integrated Circuits IIS (Nürnberg)
- Fraunhofer Institute for Algorithms and Scientific Computing SCAI (Sankt Augustin)
- Central Institute of Mental Health (ZI-Mannheim)

1st Capacity building workshop

PARTICIPANT TEAMS

SPAIN

- University of Salamanca
 - Institute of Neuroscience of Castilla y León INCYL
 - Bioinformatics, Intelligent Systems and Educational Technology Group BISITE
 - Group of Robotics and Society GROUSAL
 - Department of Surgery and Anesthesiology
- University Hospital of Salamanca
 - Clinical Neurophysiology Department
 - Rehabilitation Department

1st Capacity building workshop

PARTICIPANT TEAMS

SPAIN

- National Hospital for Paraplegics
 - Biomechanics and Technical Aids Department
 - Functional Exploration and Neuromodulation of the CNS Department
- University of Navarra
 - Center for Applied Medical Research CIMA
- Miguel Hernández University
 - Systems Engineering and Automation Department

1st Capacity building workshop

3 RESEARCH PILLARS, 9 RESEARCH AREAS, 12 ROOMS

Research Pillar	Research Area	ROOMS
Early Diagnostic Tools	Biomedical Sensors	Wearable sensors and electromyography
		Advanced trans-cranial magnetic stimulation, disposable electrodes for EEG and muscle biosensors
	Biomarkers	Development of specific biomarkers / antibodies
	AI for Medical Data Analysis	Deep learning techniques for healthcare. Intelligent Data Analysis
		Brain Functional Network Extraction and Analysis
		Comprehensive analysis of medical imaging data
Improved diagnostic & therapy including cooperative robotics	Biomedical Innovative Techniques	Olfaction in neurosciences and GC-IMS
		Separation, purification and detection of bacteria with magnetic beads
	Innovative systems for minimally invasive interventions	Design and mathematical modelling of innovative systems for minimally invasive interventions
	Cooperative robotics	Human-robot interaction and simulation
Quality of life improvement	E-instruments for Innovative Rehabilitation Methods	Rehabilitation devices
	E-instruments for Improved Communication	E-instruments for improved communication

1st Capacity building workshop

PROJECT CALLS OF INTEREST



<https://erapermed.isciii.es/joint-calls/joint-transnational-call-2021/>

MULTIDISCIPLINARY RESEARCH PROJECTS ON PERSONALISED MEDICINE – DEVELOPMENT OF CLINICAL SUPPORT TOOLS FOR PERSONALISED MEDICINE IMPLEMENTATION

ERA PerMed is an ERA-NET Cofund, supported by 32 partners of 23 countries and cofunded by the European Commission (EC). To align national research strategies, promote excellence, reinforce the competitiveness of European players in Personalised Medicine (PM), and enhance the European collaboration with non-EU countries, 30 funding organisations have agreed to launch the fourth Joint Transnational Call for collaborative innovative research projects in PM

ERA PerMed

With its fourth transnational call, ERA PerMed fosters research and innovation activities that build close linkages between clinical research, computer science/medical informatics and research on ethical, legal and social aspects (ELSA) in the field of PM. This implies a wide range of multidisciplinary activities brought together by different stakeholders from academia, clinical/public health research and private partners such as small and medium-sized enterprises (SMEs), policy makers, regulatory/health technology assessment (HTA) agencies and patients/patient organisations.

- **Opening of online submission tool: 14 December 2020**
- **Submission deadline for pre-proposals: 4 March 2021 (17:00 CET)**
- **Opening of online submission tool for full-proposals: 13 May 2021**
- **Submission deadline for invited full-proposals: 17 June 2021 (17:00 CET)**

1st Capacity building workshop

PROJECT CALLS OF INTEREST



<https://www.neuron-eranet.eu/en/972.php>

2021 “Neurodevelopmental Disorders”

Call for Proposals for Transnational Research Projects on Neurodevelopmental Disorders

Neuroscientific research on neurodevelopmental disorders and its translation into diagnostic and therapeutic outcomes is a central pillar to promote healthy living in Europe and worldwide. To address this topic, NEURON aims to coordinate research efforts and funding programmes across Europe and beyond to promote disease-related biomedical research on neurodevelopmental disorders. NEURON particularly wishes to encourage multidisciplinary approaches and translational research proposals combining basic and clinical research that will ultimately help to develop new strategies for prevention, diagnosis, therapy, and rehabilitation.

Launch

07 January 2021

Deadline for pre-proposal submission: 09 March 2021; 14:00 CET

1st Capacity building workshop

PROJECT CALLS OF INTEREST



<http://www.aal-europe.eu/>

ACTIVE AND ASSISTED LIVING PROGRAMME AAL CALL FOR PROPOSALS 2021

ADVANCING INCLUSIVE HEALTH & CARE SOLUTIONS FOR AGEING WELL IN
THE NEW DECADE

The AAL Programme is a common funding activity of partner states of the AAL Association, with the financial support of the European Commission, based on Article 185 of the Treaty on the Functioning of the European Union (TFEU). The aim of the AAL Programme is to improve the autonomy, participation in social life, skills, and employability of older adults by providing innovative Information and Communication Technologies (ICT)/digital - based solutions



The AAL Calls for proposals provide a targeted funding mechanism for the development as well as the integration of ICT-based solutions (both products and services) into the social fabric of a particular region and/or health and care environment. This AAL Call responds not only to the challenges & opportunities of ageing well, but also provides another support angle to the health and care system, particularly at local and regional level

**Deadline: 21 May 2021 at 17:00
hours Central European Time (CET).**





Contact

www.braintwin.eu
@H2020Twin

Nicolae Lucanu | project coordinator | nlucanu@etti.tuiasi.ro

Technical University Gheorghe Asachi from Iasi
Electronics, Telecommunications & Information Technology Faculty
Bd. Carol I no. 11A, Iasi

Tel. +40761130011
<http://www.tuiasi.ro>

