

**Neurodegenerative**  
**Brain – Spinal Cord**

<b>RECOOP HST Research Activity Inventory</b>			
Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.			
<b>Organization</b>	University of Debrecen, Medical and Health Science Center		
<b>Area of the Research</b>	Radiology		
<b>Title of the Research Activity</b>	Early detection of the cerebrovascular diseases		
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>		
University of Debrecen, Medical and Health Science Center, Radiology Department  Nagyerdei Krt. 98, Debrecen, 4032-Hungary	Name: Jozsef Kollar		
	Title: Associate Professor		
	Tel: 00 36 52 417 909		
	Fax: 00 36 52 417 909		
	E-mail: kjo@radiologia.dote.hu		
<b>Abstract</b>	Maximum 500 characters		
Examination of the brain white matter lesions by multidetector Computer Tomography(CT) and 1,5 T Magnetic Resonance Imaging(MRI) techniques. Early detection of the cerebrovascular diseases by diffusion MR (DWI) and diffusion CT. Evaluation of the degenerative disorders. Non-age related bone mineral content evaluation. Stenting.			
<b>Methods used</b>	Maximum 300 characters		
Modern radiological techniques: screening and diagnostic  Evaluation of the calcium-core of the coronary arteries			
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference		
Lengyel Z, Balogh E, Emri M, Szikszai E, Kollar J, Sikula J, Esik O, Tron L, Oláh E: Pattern of increased cerebral FDG uptake in Down syndrome patients. <i>Pediatr Neurol.</i> 2006 Apr; 34(4): 270-5			
Koszegi Z, Homorodi N, Bodi A, Vaszily M, Vajda G, Kollar J, Edes I,: Images in cardiovascular medicine. Giant pulmonary aneurysm associated with pulmonary valve agenesis. <i>Circulation</i> 2005 Oct. 11; 112(15): e263-4			
Csepány T, Kollar J, Sikula J, Molnár M, Csiba L: Primary cerebral angiitis: a case history and literature review of its diagnosis. <i>Ideggyogy Sz.</i> 2005 May 20; 58(5-6) :183-9.			
<b>Related Inventions Disclosures and Patents</b>			
Planning grant application (please mark your selection with X)	FP7	<input type="checkbox"/>	NIH <input type="checkbox"/>
Only participating in projects (please mark your selection with X)	FP7	<input type="checkbox"/>	NIH <input type="checkbox"/>

<b>RECOOP HST Research Activity Inventory</b>					
Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.					
<b>Organization</b>	University of Debrecen, Medical and Health Science Center				
<b>Area of the Research</b>	Biochemistry; Molecular Biology				
<b>Title of the Research Activity</b>	Searching for the nuclear function of transglutaminase 2; Neurodegenerative diseases; Regulation of phagocytic genes				
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>				
University of Debrecen, Medical and Health Science Center, Department of Biochemistry and Molecular Biology  Egyetem tér 1., Debrecen, 4032-Hungary	Name: Laszlo Fesus				
	Title: Full Professor				
	Tel: 00 36 52 416 432				
	Fax: 00 36 52 314 989				
E-mail: fesus@indi.biochem.dote.hu					
<b>Abstract</b>	Maximum 500 characters				
<ul style="list-style-type: none"> <li>- Searching for the nuclear function of transglutaminase 2</li> <li>- Substrates of transglutaminase 2</li> <li>- Neurodegenerative diseases</li> <li>- The role of transglutaminase 2 in coeliac disease</li> <li>- Regulation of phagocytic genes</li> </ul>					
<b>Methods used</b>	Maximum 300 characters				
<ul style="list-style-type: none"> <li>- Flow cytometric phagocytosis capacity determination. Screening of the effect of agonists/antagonists on the phagocytosis capacity of different cell lines or human monocytes or dendritic cells isolated and differentiated from healthy or disease donors.</li> <li>- Performing gene expression studies</li> <li>- Gene silencing using lentiviral transduction and siRNA.</li> <li>- Determination of transglutaminase activity with different methods.</li> <li>- Taqman real-time quantitative PCR assays. ~30 designed and tested primer and probe set, sequence.</li> <li>- Gene expression databases of a TG2 knock-down promyelocytic cell-line</li> </ul>					
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference				
Májai G, Petrovski G, Fésüs L. Inflammation and the apopto-phagocytic system. Immunol Lett. 2006 Apr 15;104(1-2):94-101. Epub 2005 Dec 12					
Fésüs. L., Szondy Z.: Transglutaminase 2 in the balance of cell death and survival. FEBS Letters 2005; 579, 3297-3302					
Sarang, Zs., Molnár, P., Németh, T., Gomba, Sz., Kardon, T., Melino, G., Cotecchia, S., Fésüs, L., and Szondy, Zs.: Tissue transglutaminase (TG2) acting as G protein protects hepatocytes against Fas-mediated cell death. Hepatology 2005; 42, 578-587					
<b>Related Inventions Disclosures and Patents</b>					
Planning grant application (please mark your selection with X)		FP7	X	NIH	X
Only participating in projects (please mark your selection with X)		FP7	X	NIH	X

<b>RECOOP HST Research Activity Inventory</b>				
Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.				
<b>Organization</b>	University of Debrecen, Medical and Health Science Center			
<b>Area of the Research</b>	Translational research in spinal cord related diseases			
<b>Title of the Research Activity</b>	New insights into fundamental mechanisms of activity-evoked neural plasticity, chronic pain and hyperalgesia. Developing effective therapeutic strategies and treatments for chronic pain syndromes.			
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>			
University of Debrecen, Medical and Health Science Center, Department of Anatomy, Histology and Embryology Nagyerdei Krt. 98, Debrecen, 4032-Hungary	Name: Antal Miklos			
	Title: Full Professor			
	Tel: 00 36 52 416 392			
	Fax: 00 36 52 432 290			
E-mail: antal@chondron.anat.dote.hu				
<b>Abstract</b>	Maximum 500 characters			
To acquire a more exhaustive understanding of fundamental aspects of the structural, functional, chemical organization and possible mechanisms of activity evoked plasticity of neural microcircuits representing the first relay station in pain processing, we study the synaptic relations, morphological, physiological and neurochemical properties of neural networks in the superficial spinal dorsal horn by using a combination of in vitro and in vivo physiological, high-resolution neuroanatomical and molecular biological techniques at the molecular, cellular and networks levels.				
<b>Methods used</b>	Maximum 300 characters			
- Screening of the effects of pharmaceutical and other compounds in the central nervous system with in vivo and in vitro electrophysiological and neurochemical methods; - Screening of possible targets of pharmaceutical and other compounds at cellular, subcellular and molecular levels with histochemical, pre- and postembedding immunohistochemical and autoradiographic methods				
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference			
<u>Antal, M.</u> , Berki, Á. Cs, Horváth, L., O'Donovan, M. J.: Developmental changes in the distribution of GABA-immunoreactive neurons in the embryonic chick lumbosacral spinal cord. J. Comp. Neurol., 343, 228-236 (1994)				
<u>Antal, M.</u> , Petkó, M., Polgár, E., Heizmann, C. W. and Storm-Mathisen, J.: Direct evidence of an extensive GABAergic innervation of the spinal dorsal horn by fibers descending from the rostral ventromedial medulla. Neuroscience, 73, 509-518 (1996)				
<u>Antal, M.</u> , Papp, I., Bahaerguli, N., Veress, G. and Vereb, Gy.: Expression of hyperpolarization activated and cyclic nucleotid-gated cation channel subunit 2 in axon terminals of peptidergic nociceptive primary sensory neurons in the superficial spinal dorsal horn of rats. Eur. J. Neurosci., 19, 1336-1342 (2004)				
<b>Related Inventions Disclosures and Patents</b>				
Planning grant application (please mark your selection with X)	FP7	X	NIH	X
Only participating in projects (please mark your selection with X)	FP7	X	NIH	X

<b>RECOOP HST Research Activity Inventory</b>				
Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.				
<b>Organization</b>				
<b>Area of the Research</b>		Brain serotonergic system in rat model of depression; Serotonin receptors and influence of antidepressants on them; Affective disorders;		
<b>Title of the Research Activity</b>		Study of the brain serotonergic system		
<b>Department (complete address)</b>		<b>Principal Investigator or Head of the Research Group</b>		
		Name: Mirko Dikšić		
		Title: Professor		
		Tel: 1-514-398-8526		
		Fax: 1-514-398-8195		
		E-mail: mirko.diksic@mcgill.ca		
<b>Abstract</b>	Maximum 500 characters			
The following hypothesis will be tested: (1) The OBX rats will show elevated densities of the 5-HT2A and 5-HT1B receptors, while the 5-HT1A receptors will show a reduced functionality; (2) Drugs will produce a reduction in 5-HT2A receptor density and elevate the functionality of the 5-HT1A and 5-HT1B receptors, especially in the limbic areas; (3) Drugs will change the affinities of the 5-HT2A and 5-HT1B sites in a regional specific manner.				
<b>Methods used</b>	Maximum 300 characters			
There are reports that antidepressants act on the brain neurochemistry differently in “normal” brains than in “depressed” brains. These experiments should help us in understanding the aspects of serotonergic neurotransmission and its possible role in the creation of non-physiological circuitry proposed to be part of human depressive symptoms.				
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference			
Impact factor=6.555; Citiran 75 puta; prosječno citiran 4.17 puta godišnje. <u>Diksic M</u> , Nagahiro S, Sourkes TL, and Yamamoto YL: A New Method to Measure Brain-serotonin Synthesis In vivo .1. Theory and Basic Data for a Biological Model. Journal of Cerebral Blood Flow and Metabolism, 10 (1): 1-12, 1990				
Impact Factor=4.852; Citiran 38 puta; prosječno citiran 3.17 puta godišnje MuckSeler, D; JevricCausevic, A; Diksic, M: Influence of fluoxetine on regional serotonin synthesis in the rat brain. Journal of Neurochemistry, 67: 2434-2442, 1996				
Impact Factor=4.852; Citiran 9 puta; prosječno citiran 1.80 puta godišnje Watanabe A, Tohyama Y, Nguyen KQ, Hasegawa S, Debonnel G, Diksic M. Regional brain serotonin synthesis is increased in the olfactory bulbectomy rat model of depression: an autoradiographic study . J Neurochem 85(2): 469-475; 2003.				
<b>Related Inventions Disclosures and Patents</b>				
None				
Planning grant application (please mark your selection with X)		FP7	<input type="checkbox"/>	NIH
Only participating in projects (please mark your selection with X)		FP7	<input type="checkbox"/>	NIH

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Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.	
<b>Organization</b>	Department of Neurosurgery Medical School, University of Pécs
<b>Area of the Research</b>	Functional MRI, aquaporins, cerebral oedema, ultrastructural compact ("black" neuron formation), traumatic brain damage (TBI), diffuse axonal damage, neuroendovascular embolisation material, disk prosthesis, vertebroplasty, neurodamage-markers.
<b>Title of the Research Activity</b>	Brain and Spinal cord related diseases
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>
Department of Neurosurgery Medical School, University of Pécs H-7623 Pécs, Rét utca 2, Hungary	Name: Prof. Dr. DÓCZI, Tamás
	Title: Prof. Dr
	Tel: +36 72 535932
	Fax: +36 72 535931
	E-mail: <a href="mailto:tamas.doczi@aok.pte.hu">tamas.doczi@aok.pte.hu</a> <b>Web:</b> <a href="http://neurosurgery.pote.hu">http://neurosurgery.pote.hu</a>
<b>Abstract</b>	Maximum 500 characters
<b>Research area</b> <ol style="list-style-type: none"> <li>1 The role of physical aqua spaces and membrane proteins with molecular aqua pores (e.g. aquaporins) detectible with MR in brain oedema, the central neuroendocrine regulation of the water and electrolyte metabolism of the brain tissue /"Aqua(Glycero)porins"/.</li> <li>2 The ultrastructural compact ("black" neuron formation) in the neurons and the molecular mechanism of the regeneration and death of the affected neurons.</li> <li>3 The investigation of the molecular pathology of axon damages following cranial damages.</li> <li>4 The development of new embolising substances and products for the purposes of non-invasive (endovascular) therapies.</li> <li>5 The development of vertebroplasty with hardness individually fitted to the bone density of the patient imposing a lower risk of embolisation, and that of tissue-friendly implants for kyphoplasty.</li> <li>6 "@neurIST" – integrated biomedical informatics for the treatment of cerebral aneurysms: data processing in the field of epidemiology, genetics and medical imaging techniques</li> <li>7 The development of a "dynamic spacer" for the treatment of cervical degenerative spinal diseases.</li> <li>8 The development of minimal invasive neurosurgical operational techniques.</li> </ol>	
<b>Human resources</b> Department of Neurosurgery: Researchers of the Clinical Unit (neurovascular team /degree holders (3) + specialists assistants (5)/, functional neuro surgical team /degree holders (2)/, spine surgery /intensive therapeutic team /degree holders (3)/) Researchers of the Experimental Unit: full-time (3), qualified career researcher (1), specialist assistants (3), PhD students (3).	
<b>Special instruments</b> Neuropathological laboratory, molecular biological laboratory, MRI with a part time schedule, dedicated DSA with a part time schedule.	
<b>Products and services</b>	

Neuropathological side-effects/toxicity investigations	
<b>Methods used</b>	Maximum 300 characters
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference
<b>Related Inventions Disclosures and Patents</b>	Patents: 1. Polyurethane composition for filling blood vessels and method of application of it 2. A polyurethane based composition for filling or short-circuiting vascular cavities (Applicant: Dóczi)

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Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.	
<b>Organization</b>	Central Electron Microscopic Laboratory Medical School, University of Pécs
<b>Area of the Research</b>	Hippocampus, brain development, epilepsy, trisomy, brain development in premature infants, neurogenesis
<b>Title of the Research Activity</b>	Brain development
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>
Central Electron Microscopic Laboratory Medical School, University of Pécs  H-7624 Pécs, Honvéd u. 1, Hungary	Name: Prof. Dr. SERESS, László
	Title: Prof. Dr
	Tel: +36 72 536060
	Fax: +36 72 536 000 ext: 1510
	E-mail: laszlo.seress@aok.pte.hu
<b>Abstract</b>	Maximum 500 characters
<p><b>Research area</b></p> <ol style="list-style-type: none"> <li>1 Development of the cerebral cortex and hippocampus in normal development, in premature infants, in trisomic children and in multiplex developmental disorders.</li> <li>2 Neuropathology of epilepsy</li> <li>3 Neurogenesis in the prenatal and postnatal human brain.</li> <li>4 Neurogenesis after brain injury in animal models.</li> <li>5 Myelination in the human brain, de-myelination ad re-myelination in the animal models of multiple sclerosis.</li> </ol> <p><b>Human resources:</b> medical doctors (2) including one full professor (DSc) and one associate professor (PhD), chemist (1), laboratory assistants for electron microscopy (2), advisor (retired neuropathologist (PhD)) (1), electric engineer for maintenance (retired) (1)</p> <p><b>Special instruments</b> JEOL JEM 1200 EX-II. Transmission electron microscope JEOL JEM 100C                   Transmission electron microscope JEOL JSM 6300                 Scanning electron microscope Leica CM 1850     Cryostate Vibratom-1500     Microtome Leica Ultracut R                Ultramicrotome LKB-2088                         Ultramicrotome</p> <p><b>Products and services</b> Examination of the ultra-structure of different biological objects (insects, bacteria, viruses, plants or food-products, such as cheese or meats.) Used magnification can range from 2,500 to 100,000 times. Examination of the surface of different biological objects (plants, hair, teeth) as well as metals or teeth-implants, artificial blood-vessels, metal objects used in surgery or implants used in bone-surgery. The surface can be scanned with a magnification range of 10 to 10,000 times.</p>	
<b>Methods used</b>	Maximum 300 characters
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference
<b>Related Inventions Disclosures and Patents</b>	

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Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.	
<b>Organization</b>	Neurophysiology Research Group of the Academy of Sciences and the University of Pécs Institute of Physiology Medical School
<b>Area of the Research</b>	Neurophysiology, behavioural neuroscience, neurochemistry, electrophysiology, endocrinology, functional neural connections, laboratory rat, rhesus monkey
<b>Title of the Research Activity</b>	
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>
Institute of Physiology Medical School, University of Pécs  H-7624 Pécs, Szigeti u. 12, Hungary	Name: Prof. Dr. LÉNÁRD, László, associate member of the Hungarian Academy of Sciences
	Title: Prof. Dr.
	Tel: +36 72 536243
	Fax: +36 72 536244
	E-mail: laszlo.lenard@aok.pte.hu <b>Web:</b> www.aok.pte.hu/elettan/lenard/
<b>Abstract</b>	Maximum 500 characters
<b>Research area</b>	
<ol style="list-style-type: none"> <li>1 Central nervous system regulation of hunger and thirst motivated behaviours</li> <li>2 Role of limbic and extrapyramidal structures in learning and reinforcement, as well as in metabolic processes and body weight control</li> <li>3 Role of the central glucose monitoring neuronal network in the regulation of feeding and metabolism</li> <li>4 Neural and neurochemical determinants of central nervous system information processing of the chemical senses</li> <li>5 Role of neuropeptides in positive and negative reinforcement, as well as in the control of motivated behaviours</li> <li>6 Significance of catecholaminergic and histaminergic mechanisms in learning and reinforcement</li> <li>7 Investigation of analgesia elicited by stress or brain electrical stimulation</li> <li>8 Modelling neuronal networks</li> <li>9 Investigation of hormonal effects in the regulation of cellular proliferation of the uterus.</li> <li>10 Cellular mechanisms of steroid hormones in the hypothalamus</li> <li>11 Examination of non-genomic transduction mechanisms of steroid hormones in the uterus, as well as investigation of their roles in human uterus pathology.</li> </ol>	
<b>Human resources</b>	
Associate member of the Hungarian Academy of Sciences (1), DSc (1), CSc (5), PhD (2), full professor (2), associate professor (4), assistant professor (3), instructor (6), senior researcher (1), research associate (4), research assistant (2), doctoral student (5), undergraduate research student (9)	

**Special instruments**

Computer-aided micro-electrophysiological data acquisition and analysis systems; neurochemical and biochemical analytical instruments (HPLC with UV detector and electrochemical detector, Arkray Spotchem dry analytical detector); complex behavioural-neurochemical-electrophysiological set up for experiments with non-human primates; complex behavioural physiological set ups for rodent experiments; liquid scintillation equipment assembly; tissue culture laboratory; immunoblot technique.

**Products and services**

Participation in drug-target development studies in relation to modifying hunger-satiety states; behavioural, neurochemical and microelectrophysiological testing of chemical substances with specific targets in the central nervous system; ad hoc follow-up of molecular events in gynaecological and obstetric patients.

<b>Methods used</b>	Maximum 300 characters
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<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference
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<b>Related Inventions Disclosures and Patents</b>	
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<b>RECOOP HST Research Activity Inventory</b>	
Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.	
<b>Organization</b>	Department of Experimental Zoology and Neurobiology, Faculty of Sciences, University of Pécs
<b>Area of the Research</b>	Brain research, vision research, learning, electrophysiology, chemistry, neuroanatomy, behaviour research
<b>Title of the Research Activity</b>	Neural regeneration in inferior animal species.
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>
Department of Experimental Zoology and Neurobiology, Faculty of Sciences, University of Pécs H-7624 Pécs, Ifjúság útja 6, Hungary	Name: Prof. Dr. GÁBRIEL, Róbert or Dr. HERNÁDI, István
	Title Prof. Dr
	Tel: +36 72 503600 ext: 4116 or +36 72 503600 ext: 4816
	Fax: +36 72 501527
	E-mail: gabriel@ttk.pte.hu or hernadi@gamma.ttk.pte.hu <b>Website:</b> www.neurobio.pte.hu
<b>Abstract</b>	Maximum 500 characters
<p><b>Research area</b></p> <ol style="list-style-type: none"> <li>1 Neural regeneration in inferior animal species. Anatomical reorganisation of the ganglionic system of the earthworm. Migration of neurons and the experrion of their phenotype. Investigation of growth factors and hormonal effects. The possible role of gli-cells.</li> <li>2 The chemical neuroanatomy of the retina. The expression of peptides and amino acid transmitters in certain retinal neurons. Induced retinal degeneration and neuroprotection. The investigation of the mechanism of some potentially neuroprotective agents (PACAP, diazoxide, urocortin).</li> <li>3 Neuroimmune interactions. Localisation and morphological examination of mast cells in the brain tissue. The effect of mast cell activation on brain information transfer. <i>In vivo</i> investigation of mast cells as factors of influencing sexual cycles.</li> <li>4 The function of the cortical noradrenerg system and its influence on learning. The influence of stress and various motivation statuses on learning and memory processes. <i>In vivo</i> voltammetric investigation of freely moving animals.</li> </ol> <p><b>Human resources</b> tutors (4), part-time researchers (2), PhD students (3), laboratory assistants (2), chief-animal tender (1) and undergraduate students preparing their thesis (8).</p> <p><b>Special instruments</b> Extra- and intracellular conducting device, EEG, EMG, behaviour analysing Colburn-boxes, microtomes (6 items), digital fluorescent light microscope.</p> <p><b>Products and services:</b> Testing the effects of drugs and other potentially harmful or useful substances on the nervous system using methods of behavioural analysis and electro-physiological procedures. Testing drug-candidate molecules in animal models. Processing animal tissues, documenting pathological alterations.</p>	
<b>Methods used</b>	Maximum 300 characters

<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference
<b>Related Inventions Disclosures and Patents</b>	

<b>RECOOP HST Research Activity Inventory</b>	
Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.	
<b>Organization</b>	Biomechanical Laboratory (CRC) Medical School, Univesity of Pécs
<b>Area of the Research</b>	biomechanics, movement analysis, spine-, equilibrium-, gait examiantions
<b>Title of the Research Activity</b>	Mobility of the spinal column in orthopedic conditions
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>
Biomechanical Laboratory (CRC) Medical School, Univesity of Pécs H-7623 Pécs, Rókus út 2, Hungary	Name: <b>Head of research unit:</b> Prof. Dr ILLÉS, Tamás
	Title: Prof. Dr
	Tel: : +36 72 503650 ext. 1807
	Fax:
	E-mail: <a href="mailto:tamas.illes@aok.pte.hu">tamas.illes@aok.pte.hu</a> <b>Web:</b> <a href="http://www.ddkkk.hu">www.ddkkk.hu</a>
	Name: <b>Head of laboratory:</b> Dr ORBÁN, Ferenc
	Title: Dr
	Tel: +36 72 503650 ext. 3731
	Fax:
	E-mail: <a href="mailto:orb@witch.pmmf.hu">orb@witch.pmmf.hu</a> <b>Web:</b> <a href="http://www.ddkkk.hu">www.ddkkk.hu</a>
<b>Abstract</b>	Maximum 500 characters
<p><b>Research area</b> The research laboratory, in cooperation with other research units, performs clinical examinations of the gait connected to orthopedic conditions and interventions in the case of implanted lower extremety orthesis, as well as investigations of the mobility of the spinal column in orthopedic conditions, and also gait examinations in healthy humans, for theoretical research. Our aim is to spread the applications of biomechanics and to utilise the research outcomes.</p> <p><b>Human resources</b> In accordance with the interdisciplinary character of the research the colleagues provide engineering (mobility examinations and statics) and medical background.</p> <p><b>Special instruments</b> Zebris CMS-HS ultrasound 3D movement detector system and analytic softwares</p> <p><b>Products and services:</b> Biomechanics is an interdisciplinary field of science, whose results are utilised by the borderline areas of medical biology.</p> <p>The research unit provides research opportunities for</p> <ul style="list-style-type: none"> <li>• clinical</li> </ul>	

- theoretical
- technological projects.

The equipment of the laboratory is applicable for any spinal column, gait, and mobility investigations, which require high-accuracy location determination.

Results gained are applicable for

- the assessment of clinical therapeutic interventions,
- the assessment of mobility state,
- data collection of the research on musculo-skeletal system,
- testing therapeutic measures, implants and new treatment procedures.

For the analysis of motion detected, analytical softwares belonging to the Zebris equipment are available, while the specific investigations carried out in accordance with the projects, the the data of the 0.1 mm-accuracy original position can be used.

Besides standard measurement procedures, there will be opportunities to construct individual configurations and perform analyses.

The research unit is available for clinical and research motion investigations and projects the research unit is available.

<b>Methods used</b>	Maximum 300 characters
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference
<b>Related Inventions Disclosures and Patents</b>	

<b>RECOOP HST Research Activity Inventory</b>						
Please complete the template for each selected project your organization would like to share with the partners of the RECOOP HST Consortium and would like to invite other organizations to write FP7 or NIH proposals.						
<b>Organization</b>	Palladin Institute of Biochemistry NAS of Ukraine					
<b>Area of the Research</b>	BIOTECHNOLOGY, GENERIC TOOLS AND MEDICAL TECHNOLOGIES FOR HUMAN HEALTH: Molecular biology; Cell biology. TRANSLATIONAL RESEARCH IN OTHER MAJOR DISEASES: Chronic diseases: gastrointestinal, musculoskeletal, <u>neurodegenerative</u>					
<b>Title of the Research Activity</b>	Study of mechanisms of vitamin B <sub>1</sub> (thiamine) participation in regulation of the processes involved in programmed cells death					
<b>Department (complete address)</b>	<b>Principal Investigator or Head of the Research Group</b>					
9, Leontovicha str., Kyiv, 01601, Ukraine O.V. Palladin Institute of Biochemistry NAS Ukraine, Coenzymes Biochemistry Department. Head of Coenzymes Biochemistry Department, Doc. Sci., Professor, corresponding member of NAS Ukraine Georgiy Donchenko	Name: Iuliya Parkhomenko					
	Title: Doc. Sci.					
	Tel: 38 044 234-71-78					
	Fax: 38 044 279-63-65					
	E-mail: yupark@biochem.kiev.ua					
<b>Abstract</b>	Maximum 500 characters					
The task of the project is research of mechanisms of vitamin B <sub>1</sub> (thiamine) participation in regulation of the processes involved in programmed cells death (apoptosis). Such thiamine derivatives, as amprolium, pyrithiamine, oxythiamine, new synthesized thiamine derivatives on basis of thiazole would be used in researches. Study of mechanisms of thiamine derivatives participation in regulation of apoptosis is directed on search of new effective medicines for treatment certain neurodegenerative diseases.						
<b>Methods used</b>	Maximum 300 characters					
Biochemical, spectrophotometric, immunological methods, electrophoresis, immunoblotting, confocal laser scanning fluorescence microscopy will be used in researches. Researches with cellular cultures of a different origin, including primary culture of the nervous cells isolated from rat brain, is planned.						
<b>Related references (max 3)</b>	Indicate the impact factor of the cited reference					
Chorny S.A., Parkhomenko Iu.M. Apoptosis activation in rat astrocyte cells caused by antagonists of thiamine. Biopolymers and cell (Biopolimery i kletka). 2006. 22 (4): P. 290-298.						
<b>Related Inventions Disclosures and Patents</b>						
3 Ukraine Patents for metabolic medicine creation on the vitamin's base and other nature compounds have been obtained in last five years						
Planning grant application (please mark your selection with X)			FP7	X	NIH	X
Only participating in projects (please mark your selection with X)			FP7	X	NIH	X