



FP7 Partner Search Form

Date:	28	April	2011
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All fields are mandatory for filling in besides those marked with (*).

Organisation name	"Lviv Polytechnic" National University		
Unit / Department	Metrology, Standardization and Certification Department (MSCD)		
Contact Person (title, name, position in Organisation)	Mrs Tetiana Bubela, PhD, Associate Professor		
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Phone	+38 (032) 258-23-94		
* Fax			
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Postal address of Organisation	28a, Bandery str., Lviv, 79013, Ukraine		
Organisation type	<input type="checkbox"/> Non profit research organisation	<input type="checkbox"/> Small & Medium Enterprise (SME)	<input type="checkbox"/> Public body
	<input checked="" type="checkbox"/> Higher education establishment (University, etc.)	<input type="checkbox"/> Non SME Company	<input type="checkbox"/> Other (none of the above)

Section I

THE ORGANISATION IS INTERESTED IN PARTICIPATION IN THE FOLLOWING FP7 ACTIVITIES:

'COOPERATION'

Theme	<input type="checkbox"/> Health	<input type="checkbox"/> FAFB	<input checked="" type="checkbox"/> ICT	<input type="checkbox"/> NMP	<input type="checkbox"/> Energy
	<input checked="" type="checkbox"/> Environment	<input type="checkbox"/> Transport	<input type="checkbox"/> SSH	<input type="checkbox"/> Space	<input type="checkbox"/> Security

CAPACITY AND ACHIEVEMENTS OF THE UNIT / ORGANISATION

RESEARCH ACTIVITIES CARRIED OUT BY THE UNIT/ ORGANISATION TO DATE:	[max. 20 lines]
<ul style="list-style-type: none"> Recent / ongoing advanced RTD activities of the Unit (Organisation) related to the selected special FP7 programme and relevant on European scale <p>Introducing the measuring information into monitoring infosystems. The expected data are gained on the basis of the methods developed by the MSCD Department.</p> <p>Assessing quality of nonelectric nature objects (objects of environment and food industry products) with the help of new promising methods and means, which utilize well-known electric and optical methods. Thus we propose the application of the immitance method in nonelectric nature objects' quality assessment, although traditionally this method is used for monitoring electrical parameters of radio-components.</p> <p>Executing the functions of the Certification Body in the area of rural tourism in the Lviv region since 2007 (this Body is affiliated to MSCD). It implies the assessment of environmental objects' parameters including soil indices.</p> <p>Ranking the land resources. We develop appropriate methods of qualimetric assessment of land resources state and propose efficient control of soil characteristics meant for soil ecomonitoring.</p> <p>Realizing a procedure of measurement confirmation including calibration and metrological verification of</p>	

measuring means.

- **Most advanced achievements in RTD (during the last five years)**

The impedance measuring method applicable to the control of nonelectric nature objects (water solutions, soils) was studied, which consequently enabled us to evolve the improved technique.

The sensor systems were developed, which gave the possibility of applying the impedance method to the analysis of environment objects and food quality.

The achieved results are presented in 39 publications in international scientific journals.

- **Capacity to carry out advanced / unique RTD activities:**

The staff of MSCD comprises 20 researchers including 7 Full Doctors and 7 PhD.

Dr. Petro Stolyarchuk, the Chair of MSCD, has been awarded the honorary title of 'Honored Scientist and Technician of Ukraine' (2009) and a decoration of 'Excellent worker of Education in Ukraine' (2007). He is a member of Expert Board of the Higher Attestation Commission of Ukraine.

RESEARCH FACILITIES RELATED TO YOUR RESEARCH (advanced / unique equipment and techniques; large scale infrastructure for research/ testing/ demonstration; laboratories, etc. – max. 10 lines)

Laboratory facility enabling application of imittance methods and methods of optical spectrum analysis to experimental research.

*** RELEVANT PUBLICATIONS and/or OTHER REFERENCES PRESENTING OPPORTUNITIES FOR INTERNATIONAL RTD ACTIVITIES:** **[max. 10 lines]**

- Intelligent System of Temperature Field Ecological Monitoring // Stolyarchuk P., Yatsuk Yu., Mikhalieva M., Druziuk V. // Journal 'Intelligent Data Acquisition and Advanced Computing System' – 2007. – p. 79-82.
- Electric Express-Method for Liquid Quality Level Monitoring // Stolyarchuk P., Yatsuk V., Pokhodylo Y., Mikhalieva M., Boyko T., Basalkevych O. // Proceedings of 5th IEEE International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications, 21-23 September 2009, Rende (Cosenza), Italy – 2009. – p. 87-89.
- Measurement of environmental parameters for the construction of foreseeing models in ecology // Stolyarchuk P., Bubela T., Mykyichuk M.// Materials of V-th Scientific Practical Conference "Mathematical and imitational system modelling" – the 21-25 of June, 2010, Kyiv, Ukraine, p. 19-21.
- Metrological aspects of substance composition determination // Bubela T., Boyko T., Pokhodylo Y.// Magazine 'Measuring techniques and metrology' // Interdepartmental scientific technical collected articles №68, 2008, «Lviv Polytechnic» National University, Lviv, p. 83-87.

UNIT / ORGANISATION EXPERIENCE IN RTD INTERNATIONAL COOPERATION:

Participation in FP6 / FP7 project(s) funded by the EU	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
FP6 / FP7 Project Acronym	-	
Main Activities performed by the Unit (Organization) in the Project (max. 6 lines)	-	
Other international research projects / activities during the last 5 years (max. 6 lines)	Joint project «Information System of Monitoring, Ecological Audit and Certification of Sustainable Development of the Territorial Industrial Complexes» is being prepared in the framework of bilateral S&T cooperation between Bulgaria and Ukraine with support of both the Ministry of Education, Science, Youth and Sport of Ukraine and the Ministry of Education and Science of Bulgaria.	
Key Partners in RTD activities	The Technical University of Varna, Bulgaria (permanent partner)	

Section II

EXPERTISE OFFERED / PROJECT PROPOSAL BY THE UNIT / ORGANISATION

FP7 Work Programme	COOPERATION
Theme/ Activity / Area	ENVIRONMENT (including CLIMATE CHANGE) (with reference to WP 2011)/ 'Environment and health' & 'Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment' / 'Methods and decision support tools for environmental health risk analysis and policy development' & 'Eco-efficiency and Eco-innovation'

Expected role of the Organisation in project	<input checked="" type="checkbox"/> Partner	<input type="checkbox"/> Scientific Coordinator	<input type="checkbox"/> Administrative Coordinator
Type of expertise / commitment offered by the Organisation [relevant to the Work Programme/ 'Cooperation' Theme - Activity - Area and Call if open]	<input checked="" type="checkbox"/> Research	<input checked="" type="checkbox"/> Demonstration	<input type="checkbox"/> Training
	<input checked="" type="checkbox"/> Technology Development	<input checked="" type="checkbox"/> Dissemination	

EXPERTISE OFFERED: **[max. 30 lines]**

Concrete and concise description of expertise relevant to the selected FP7 Work Programme

- Development of an Informational Product aimed at Optimizing the Processes in the Area of Economonitoring;
- Formation of Conceptual Approaches to the Creation of Model Territorial Industrial Complexes (TIC);
- Investigation of Indices and Indicators for the Measurement and Evaluation of the TIC Sustainable Development;
- Analysis and Evaluation of Ecological Risks in the Industrial Processes;
- Informational Model Evolution of the System of Ecological Safety and TIC Sustainable Development.

*** PROJECT PROPOSAL:** **[max. 50 lines]**
if available and relevant to the selected FP7 Work Programme

➤ **The state-of-the-art in the research area concerned (if applicable, refer to the results of any patent search you might have carried out)**

The methods of evaluating the TIC sustainable development as well as the appropriate informational model covering economical, ecological and social components have not been involved in the European practice to date. Besides, the informational basis organized on the principles of sustainable development and capable of being used in TIC management as well as the correspondent systems of monitoring, ecological audit and certification are still absent on a national level in European countries.

➤ **Advance in RTD the Project would bring about**

The project is supposed to contribute to the development of a monitoring informational system, and to support the stable evolution of TICs. The informational system involving the input data processing, TIC modeling and software should help to avoid or minimize harmful ecological issues caused by the industrial enterprise activities, and encourage the improvement of socio-economical, ecological and labour conditions in the EU countries.

➤ **Main Ideas of the Project**

The system implies the acquisition of the reliable information regarding the necessity of ecological audit and the assessment of TIC activity conformity under conditions of sustainable development. The typical models of region pollution will be developed meeting the main requirements of national and international regulations and standards and considering the results of the meticulous environment investigation analysis in different regions. In this process the quantitative eco-indicators of pollutants should be used along with the generalized indices and criteria whose estimation would guarantee the modeling of right and effective decisions on sustainable development management and assurance. The methods of ecological audit will be realized on the web-based platform involving special software and represented as the accomplished software product approbated on real data. The successful implementation of such information system demands user training in partner countries.

➤ **Scientific & Technical objectives of Project in details:**

- Formation of a TIC database aimed at its further employing in the informational system of eco-monitoring;
- Creation of concept of a TIC model in an effort to enable the TIC effective management, which ensures TIC

sustainable development;

- Determination of indices and indicators aimed at measuring and evaluating the TIC sustainable development as well as evolving the analysis and methods of ecological risk evaluation in the industrial processes;
- Development of an informational model involving the TIC ecological safety and sustainable development;
- Design of a software product, databases and monitoring system for ecological audit & certification of the TIC sustainable development on the Internet with the following approbation in the partner countries.

➤ **Expected Project impact on European scale and added value for European Research Area (why this Project requires EU contribution and international efforts)**

Approaches, methods and rules will practically be examined for creating models of TIC sustainable development. Functioning of an eco-monitoring informational system, ecological audit and certification of TIC sustainable development on the web-based platform will foster the enterprise competitiveness and improvement in environment, labour conditions and economy in general due to the balanced usage of natural resources both in a separate country and all around Europe.

The expected results should contribute to (1) the improvement of resource efficiency (higher resource productivity and lower environmental impact) documented with relevant indicators compared to existing best available technologies; (2) the prevention of welfare growth at the expense of resource depletion; and (3) the stimulation of the European industry competitiveness.

➤ **Estimated Budget of the proposed Project (EUR)**

500.000 EUR

COMPLEMENTARY EXPERTISE AND ANTICIPATED ROLE OF EU PARTNERS SOUGHT

Organisation type	<input checked="" type="checkbox"/> Non profit research organisation	<input type="checkbox"/> Small & Medium Enterprise (SME)	<input type="checkbox"/> Public body
	<input checked="" type="checkbox"/> Higher education establishment	<input type="checkbox"/> Non SME company	<input type="checkbox"/> Other (none of the above)
Expected Role of the EU Partner in Project	<input checked="" type="checkbox"/> Administrative Coordinator	<input checked="" type="checkbox"/> Partner	
	<input checked="" type="checkbox"/> Scientific Coordinator	<input checked="" type="checkbox"/> End-user	
Type of EU Partner's expertise / commitment sought	<input checked="" type="checkbox"/> Research	<input type="checkbox"/> Demonstration	<input checked="" type="checkbox"/> Training
	<input type="checkbox"/> Technology Development	<input type="checkbox"/> Dissemination	
* Additional information (max. 4 lines):			

I AGREE WITH DISSEMINATION OF THE INFORMATION CONTAINED IN THIS FORM: YES NO

<p>National Information Centre for Ukraine - EU S&T Cooperation, FP7 National Contact Point INCO – Financial & Legal Matters – Mobility Ms Olena Koval, Director</p> <p>Ukraine, Kyiv 03680, 180 Gorky Str, office 801 + 38 044 529 03 32 nip@fp7-ncp.kiev.ua http://www.fp7-ncp.kiev.ua</p>	<p>EU-funded project “Joint Support Office for enhancing Ukraine's integration into the European Research Area”</p> <p>Dr Aleksander Bakowski, Team Leader</p> <p>Ukraine, Kyiv 01033, 22-B Saksagansky Str, office 29, 4th floor +38 044 287 15 87, 289 13 15 jso@jsoresearch.kiev.ua http://jso-era.org</p>
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EU organisations may contact Ukrainian Organisation/ Unit directly or request support from JSO-ERA/ NIP-Ukraine for establishing reliable contact.

Potential EU partners will help to ensure traceability of feedback during Partner Search by informing JSO-ERA / NIP-Ukraine on intended or established contact with Ukrainian Organisation/ Unit.