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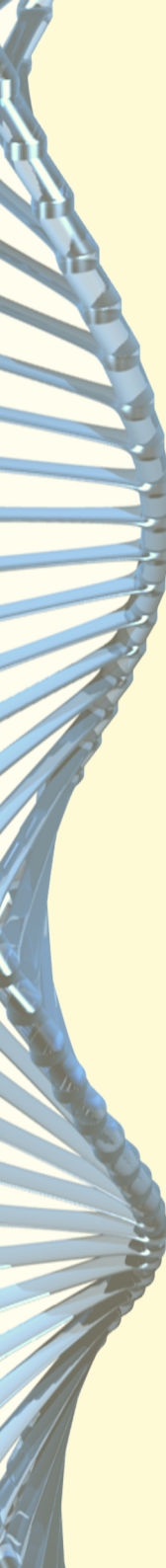
CATALOGUE OF RESEARCH GROUPS FROM MOLDOVA

MOLDOVAN SCIENCE
TOWARDS THE
EUROPEAN RESEARCH AREA

2011



European
Research Area



MOLDOVAN SCIENCE
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EUROPEAN RESEARCH AREA

CATALOGUE OF RESEARCH
GROUPS FROM MOLDOVA

Știința, 2011

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Dear Reader,

Fostering international scientific cooperation is one of the main goals promoted by the Moldovan scientific community during the last years. At the same time, the EU Seventh Framework Programme for research and technological development (FP7) is the proper instrument to bring us more closely to the European Research Area.

In this regard a Catalogue of research groups from the Republic of Moldova willing to foster partnerships in order to take part in FP7 projects was elaborated. Here you can find information about S&T performers, based on the priorities set up by the FP7.

The Catalogue of Research Groups from Moldova has been published in the framework of a project titled "Establishment of an infrastructure which encourages the efficient participation of the scientific community from Moldova in the Seventh Framework Programme".

The project has been implemented with the support of the Supreme Council for Science and Technological Development of the Academy of Sciences of Moldova (CSSDT of ASM), the Department of European Integration and International Cooperation of ASM, the Institute of European Integration and Political Sciences of ASM, and the Network of the National Contact Points (NCPs) of the Seventh Framework Programme in Moldova.

Hope you will find this publication interesting and the information useful for creating collaborative linkages with Moldovan researchers.

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INFORMATION SOCIETY DEVELOPMENT INSTITUTE

THE ACADEMY OF SCIENCES OF MOLDOVA

Organization activity type : **RES**
FP7 theme : **ICT**
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BRIEF DESCRIPTION OF THE ORGANIZATION

The Information Society Development Institute (IDSI) is a state enterprise. The main scientific direction is the development of information society platforms in Moldova and the assurance of scientific support for integration in the European Research and Information Area.

IDSI aims to provide scientific and technological support in the ICT sphere in order to enforce research within the information society, empower technological transfers and capitalize on research results.

Among the priorities of IDSI activities : the promotion of proactive policies, solutions and research in ICT on order to strengthen and develop the information society and partnerships between science and industry; collaboration with international bodies, science academies and similar institutes from other countries.

KEYWORDS ON CORE COMPETENCIES

information society; expert systems; quality and security of networks; information security; e-security

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

IDSI is involved in the elaboration of diagnosis and prognosis studies regarding the ICT area development. It acts as an integrator of solutions, hardware and software components. In 2009 IDSI implemented the Quality Management System (nr.AJAEU/09/11667 of 10.08.2009).

IDSI is the institution responsible for the development of information systems and e-Infrastructures for science and innovation organisations of Moldova. The ACADEMICA network was established and administered by IDSI : it interconnects 27 research institutions and universities, and support institutions of the ASM (Centre of International Projects, The Central Scientific Library) and is continually increasing the number of its members.

INTERNATIONAL COOPERATION EXPERIENCE

IDSI hosts the National Contact Point of the EC FP7 for ICT.

The CISCO Academy, IDSI is a component of the innovative training initiative Cisco Networking Academy.

International projects :

- 1) 2 FP7 projects : SEERA-EI South East European Area for e-Infrastructures and EXTEND - Extending ICT research cooperation between the European Union, Eastern Europe and Southern Caucasus.
- 2) STCU project "Creation of unique information environment in GUAM community for remote training and technical and scientific co-operation".

INFORMATION SYSTEMS LABORATORY

THE INSTITUTE OF MATHEMATICS AND COMPUTER SCIENCE, THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ICT**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Scientific achievements : • the informational tools for assistance of ultrasonography examinations were elaborated; • new technologies for expert knowledge acquiring, formalizing, storage and management were developed; • a concept of Information Society creation in Moldova has been proposed; • a methodology of services and resources distribution in heterogeneous networks, assured by the development of various types of networking systems using advanced information and communication technologies, was proposed; • a scheme of optimal services providers distribution in network nodes, and the system of servers which offers services for heterogeneous networks were developed; • middleware properties referred to distributed computing infrastructure functioning (Grid computing) were studied, and proposals to achieve modernization of software for interfaces implementation (gateways) between different variants of middleware were elaborated.

KEYWORDS ON CORE COMPETENCIES

knowledge engineering, e-learning, decision support systems, distributed/Grid computing, optimization of distributed data storage operations

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

• information Processing : Data Warehousing, • networks, Communications and Systems : Parallel computing (GRID technologies and infrastructure); • software and Services (Applied ICT) : knowledge Management, Web Service Technologies, eHealth

INTERNATIONAL COOPERATION EXPERIENCE

• Project STCU 4035 Informational tools for assistance of sonographic examinations, 2007 - 2010; • Project FP7, EC 261499 HP-SEE (High Performance Computing Infrastructure for South East Europe's Research Communities), 2010 - 2012; • PNUD Moldova Project MOL/03/004 Connectivity and public access to the Information Society technologies at the community level, 16.02.2004 - 16.04.2004; • PNUD Moldova Project MOL/03/004 Electronic Services in Public Administration (e-gov); Privacy and Freedom of Information, 16.02.2004 - 16.04.2004; • Project in the framework of collaboration Moldova - Germany 09.820.08.02.GA Data Warehouse approach of standard reference images for computer-aided sonography of abdominal diseases, 2009; • Project in the framework of collaboration Moldova - Germany 09.820.08.01.GF Analysing and modelling of the data processing in the future network systems, 2009; • Project in the framework of collaboration Moldova - Romania 10.820.08.06/RoA Innovative methods for visualization and ultrasound investigation for medical purposes, 2010 - 2012

PROGRAMMING SYSTEMS LABORATORY

THE INSTITUTE OF MATHEMATICS AND COMPUTER SCIENCE, THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ICT**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Scientific achievements :

- effective methods based on formal grammars and languages for development of application and system software have been implemented;
- computational noncommutative algebra system for calculation of Gröbner basis, Anick resolution, Hilbert series and for prediction of the infinite obstructions behavior based on their finite component have been developed;
- formal models of computation based on universal Turing machines and molecular calculations have been constructed;
- a toolkit for building and managing of computational lexicons has been developed. A database with linguistic reusable resources for Romanian language has been developed;
- methods for implementation of discrete simulation languages, algorithms for visualization and analysis of the experiments results, for automatization of design and implementation of problem-oriented simulation systems have been developed.

KEYWORDS ON CORE COMPETENCIES

molecular computing; natural language processing; formal models of computation; modelling and simulation systems; software development technology;

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Information Processing : User Interfaces, Image Processing, Simulation;
- Software and Services (Applied ICT) : Bio-informatics;
- Cognitive Systems and Robotics : Human-machine Interfaces.

INTERNATIONAL COOPERATION EXPERIENCE

- Project INTAS RoLTech. Platform for Romanian Language Technology : resources, tools and interfaces, 2006 - 2008;
- Project NATO Basics of Molecular Computing, 2000 - 2003;
- Project NATO Public Diplomacy Division, Science Programme Advanced Research Workshop : Computational commutative and non-commutative algebraic geometry, 2004;
- Swedish Royal Academy of Sciences Grant Nr. 1502 Computational homological algebra, 1997 - 2000;
- Swedish Royal Academy of Sciences Grant Nr. Generalized Groebner basis calculation and algebraic applications, 2003 - 2006;
- Project Power and efficiency of natural computing : neural-like P (membrane) systems, 2007 - 2010;
- Project FP5, MolCoNet - A Thematic network on Molecular Computing, 2000 - 2004;
- Project FP6, EC, Marie Curie Incoming International Fellowship program MolCIP : Molecular Computing and Intractable Problems, 01.06.2007 - 31.05.2009;
- Moldova - Romania 10.820.08.04/RoA Information resources management and assistance in inter-academic scientific cooperation and in management of cooperation between the Academy of Sciences of Moldova and the Romanian Academy, 2010 - 2012.

THE LABORATORY OF COORDINATION CHEMISTRY

THE INSTITUTE OF CHEMISTRY, THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **NMP**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Coordination Compounds was founded by the academician Antonie Ablov in 1959 as part of the Institute of Chemistry of the Academy of Sciences of Moldova.

Polynuclear dioximates and carboxylates of transition metals were obtained on the basis of fundamental concepts and laws. Based on this research several elaborations were offered and over 40 of them patented : patents on the themes of catalysts, colorants, stimulators of biological processes, new coordination compounds for obtaining extra-pure metals, ion-selective electrodes and anticorrosion coating agents.

KEYWORDS ON CORE COMPETENCIES

template synthesis; polynuclear compounds; magnetic properties; biological activity; transition metals

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Synthetic methods (including template synthesis) of the mononuclear, polynuclear, supramolecular compounds and coordination polymers of the transition metals with organic polyfunctional ligands, based on Schiff bases and metal carboxylates;

Basic research in elucidating physical, chemical, magnetic, catalytic and structural properties of the synthesized compounds;

Applied research of the coordination compounds as stimulators of the vital activity of some microorganisms in the biosynthesis of enzymes, as well as stimulators to raise the productivity and drought resistance of cultivated plants.

INTERNATIONAL COOPERATION EXPERIENCE

2009-2012 SCOPES "Magnetic coordination polymers of the nanosized clusters";

2006-2008 SCOPES "New Approaches for Building Potential Magnetic Materials : From Isolated Metals Clusters to Molecule-Based Magnets";

2005-2007 MRDA/CRDF "Synthesis and Investigation of Homo-, Hetero- and Mixed Valence Iron Complexes with Carboxylate and Hydrazine Derivatives Ligands as New Catalysts for Oxygenation of Hydrocarbons";

2004-2006 INTAS "Polymetallic Complexes as Molecular Nanomagnets and Novel Homogeneous Catalysts".

THE LABORATORY FOR SOLID STATE STRUCTURES

THE INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES "D. GHITU", THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **NMP**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Laboratory for Solid State Structures is engaged in fundamental and applied research in the following directions : • physics and technology of semiconductor materials (A4B6 compounds, single crystals, thin films, multilayer structures); • impurity states in A4B6 compounds; • transport phenomena, photoelectrical properties, optical properties; • IR sensors; • nanomaterials and nanostructures based on semiconductor materials.

KEYWORDS ON CORE COMPETENCIES

narrow gap semiconductors; quantum dots; photoconductivity; lead chalcogenides; thermoelectricity

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Development and elaboration of matrix photodetectors based on Si-CaF₂-BaF₂-PbSnTe : In operating in IR region of spectrum. Two technological routes of PbTe nanoparticle obtaining were carried out.

INTERNATIONAL COOPERATION EXPERIENCE

- SNF NIB7320-110921/1 (SCOPES). New type of sensitive "continuous" focal plane arrays for Terahertz radiation detection : development of the physical principles of operation, (2006-2008);
- INTAS project 96-0535. New low dimensional AlVbVI semiconductor structures with high thermoelectric performance (1997);
- INTAS project 01-0184 Development of p-type High Thermoelectric Performance Quantum-Well Structures (2002);
- RER/8/014 (PC7) Supporting Radiation Synthesis and the Characterization of Nanomaterials for Health Care, Environmental Protection and Clean Energy Applications (2009) :
- 08.820.06.41RF. Mechanisms of quenching of remanent photoconductivity in PbSnTe : In (2008-2009);
- 08.820.06.42RF Numeric modelling of the active influence on convective clouds within dimensions of a single convective cell (2008-2009)
- 08.820.05.035.RF Preparation and properties of mixed polyoxometalates of Se(IV), Te(IV) and design of functional hybrid materials on their basis (2008 - 2009);
- 06.17CRF Photoconductivity of narrow-gap semiconductors based on lead telluride in the terahertz range (2006 - 2007).

THE LABORATORY FOR NANOTECHNOLOGIES

THE INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES "D. GHITU ", THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **NMP**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory for Nanotechnologies is engaged in fundamental and applied research in the following directions :

- The development of technologies for large surface manufacturing of nanofilms and semiconductor templates with homogeneous morphology and optical and electrical properties;
- Development of manufacturing technologies of composite materials based on semiconductor and dielectric templates, semiconductor and semimetallic microwires and nanowires; • optical and electrical characterization of epitaxial structures and composite materials; • implementation of templates and compos.

KEYWORDS ON CORE COMPETENCIES

nanotechnology; filiform nanostructures; zinc oxide nanofilms; InP terahertz emitters; thermoelectricity

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

For the first time, we obtained irradiated porous InP membranes that can be applied in terahertz emitters. Quasi-ordered arrays of pores oriented parallel to the upper surface of the ZnSe semiconductor substrate was obtained for creating metal-dielectric 3D arrays.

INTERNATIONAL COOPERATION EXPERIENCE

- Development of multicomponent filiform nanostructures for thermoelectric applications (2010); • Intas - Development of THz sources on nanostructured semiconductors and focusing elements on photonic crystals (2006-2008); • STCU - Development of random lasers based on porous semiconductor compounds for photonic applications (2007-2009); • INTAS - Monolayered opalline superlattice : application to nanotechnology of 2D ordered array of epitaxial nanodots and metalattice conductors (2004-2005); • INTAS - Ferroelectrics templated in nanoporous membranes (2004-2005); • CGP CDRF - Development of optical frequency up-converters and dielectric mirrors based on nanostructured III-V compounds for integrated optoelectronic circuits (2004-2006)
- SCOPES - Nanopatterned materials for the improvement of terahertz quantum cascade lasers and laser-driven solid-state terahertz emitters (2010-2012); • BMBF-ASM Cost-effective technological approach for 2D and 3D nanostructuring of GaN (2010-2011); • RoF ASM - ANCS - Technology for preparing ZnO by the hydrothermal method and nanostructures based on zinc oxide for fabricating optoelectronic devices (2010-2012); • ASM-R. Belarus. Nanoporous materials and structures with a variable gradient of porosity for applications in optics and optoelectronics (2010-2011).

LABORATORY OF ELECTRONICS OF LOW DIMENSIONAL STRUCTURES

INSTITUTE OF ELECTRONIC ENGINEERING AND NANOTECHNOLOGIES "D. GHITU" OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **NMP**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Electronics of Low-Dimensional Structures (IEEN "D. Ghitu") is engaged in fundamental and applied research in the following directions :

- Quantum interference effects in low-dimensional structures for their further applications in spintronics.
- Semimetal and semiconductor thermoelectric materials based on low-dimensional structures.
- Lifshits electron topological transitions induced by external action for optimizing the thermoelectric efficiency of materials based on semimetals and its' alloys.
- Microsized thermoelectric energy converters and magnetoresistive sensors based on semimetal and semiconductor microwires and nanowires.

KEYWORDS ON CORE COMPETENCIES

low dimensional structures; spintronics; thermoelectricity; topological insulator; nanowire semimetal

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- STCU 5050. Quantum interference effects and thermoelectricity in semimetal nanowire, project manager Dr.hab. Nikolaeva A.A. (2010-2011)

SCOPES. Functional nanowires, project manager Dr.hab. Nikolaeva A.A. (2010-2012)

- CRDF project CGP MO-E1-2603-SI-04. Thermoelectric and Aharonov Bohm oscillations in Bi and its alloys quantum wires. Project manager Dr.hab. Nikolaeva A.A. (2004-2006)

- CRDF/MRDA, BGP project MP2-3019. Synthesis of nanostructures based on Bi and Bi-Sb and the investigation of the electronic transport over a wide range of temperatures, magnetic field and deformations, project manager Dr.hab. Nikolaeva A.A. (2001-2003)

- Moldova-Ukraine bilateral project. Development of the technology for preparing wire micro and nanocrystals based on semiconductors and semimetals and the study of their magnetic and transport properties under elastic tension for sensitive tenso and thermotransducers, project manager Dr.hab. Nikolaeva A.A. (2010-2011)

- Moldova-Ukraine bilateral project. Technology and physicochemical properties of lead telluride thin films and wires for thermoelectric energy convertors, project manager Dr. Meglei D.F. (2010-2011)
Project CSSDT/FCFR 06.18CRF „Quantum transport in micro- and nanocontacts and in quantum wires of semimetals and superconductors”, project manager Dr. Konopko L.A. (2006-2007).

THE CENTRE OF PHYSICAL CHEMISTRY AND NANOCOMPOSITES

THE INSTITUTE OF CHEMISTRY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **NMP**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Centre was established in 2006 with 65 staff members. The centre has published 73 scientific articles and 152 presentations.

KEYWORDS ON CORE COMPETENCIES

kinetics; complexes; synthesis; theory; mechanisms;

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Research on the theory of vibronic interactions; semi-empirical and ab initio calculations of coordination compounds;
- study of the structure-activity (chemical, biological) relationship; • antioxidant properties of new derivatives of dioxyfumaric acid; • methods of synthesis of new homo- and heteronuclear carboxy-clusters of d-d', f-f, d-f, d-s metals with interesting physiologic active (brevets) and magnetic properties; • methods to obtain the nanoparticles of oxides of these metals using as precursors the synthesized complexes; • electrochemical analytical methods to determine the concentration of heavy metals in food products; • new procedures to improve the sensibility and selectivity of carbon fibre micro-electrodes in toxic metals traces analyses; • theoretical methods of exchanging of antiferro- to ferromagnetic interaction and vice-versa in dimeric clusters of d or f metals; • the treatment of waste produced by plants operating with distilled, refined Ethanol; • optimization of propolis production technology. • On the basis of the geometrical interpretation of the Kramers theorem there were determined 8 operators which form the neabelian group of symmetry $G_8(1/2)$ for a single particle with $S = 1/2$ spin.

INTERNATIONAL COOPERATION EXPERIENCE

- MRDA-CRDF : „Preparation of antianemia pharmaceutical products by utilization of coordination compounds of d-elements and Spirulina” (2005-2007).
- Project SCOPES “Design, synthesis and study of coordination compounds of 3d- and 4f- metals using functionalized macro- and heterocyclic ligands for possible medicinal and therapeutic applications” (2005 - 2008). Professor C.Turta (IC ASM).
- Project INTAS “Novel strategies for intermatrix synthesis of highly stable ferromagnetic nanoparticles” (2006-2009). Professor C.Turta (IC ASM).
- Grant : „New Zero-Dimensional Quantum Systems Based on Heteronuclear $\{Mn-M\}_{12}$ and $\{Fe_2MO\}_n$ Clusters with Both Single-Molecule Magnet and Cross-Over properties as Quantum Computing Materials” (2005-2008).
- PCAP - Photocatalytic Cluster Complexes for Artificial Photosynthesis. EOPLE, MARIE CURIE ACTIONS, International Research Staff Exchange Scheme Call : FP7-People-2009-IRSES. Nr. 246902, (2010 - 2013).

THE INSTITUTE OF POWER ENGINEERING

THE ACADEMY OF SCIENCES OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **Energy**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Institutional project (applied research) : “The development of effective technical devices and solutions for the production, transfer, consumption and supply of energy” (project coordinator Dr. Berzan Vladimir).

Independent research project : “07.409.36INDA : Research on the efficiency of renewable energy source utilization in the south of Moldova (wind, sun, biogas)” (project coordinator : PhD. Tirsu Mihai)

Technological transfer project : “Implementation of solar collectors for water heating (public baths, individual houses) or mobile bathrooms” (project coordinator : Dr. Postolati V.)

KEYWORDS ON CORE COMPETENCIES

wind energy; solar energy; bioenergy; convective drying

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Wind installation with horizontal axes of 3kW.

Solar heaters with raised productivity.

Convective drying installations on basis of cross-section air streams.

Complex bioenergy installations;

Turbines with vertical rotation axis (module)

Vertical axis wind turbines with wind stream concentrators.

Mirrored solar collectors for the heating of liquids (water)

INTERNATIONAL COOPERATION EXPERIENCE

- “Newsletter of PROMITHEAS- “The Energy and Climate Policy Network” (supervisor : Dr. Professor Chiorsac Mihai);
- “Energy-Saving Power Conversion Systems with Advanced Methods of Synchronised Modulation” (supervisor : Dr. Olesciuc Valentin);
- “Scientific analysis and monitoring of energy security of Moldova and Belarus and development of practical recommendations“ (supervisor : PhD. Bikova Elena).

THE LABORATORY OF PLANT RESOURCES

THE BOTANICAL GARDEN, AN ACADEMY OF SCIENCES INSTITUTION

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory consists of 14 members : 4 doctors in biological sciences, 2 doctoral students and 8 experts in the field of higher education.

Collections of plants are being maintained : i.e. forage plants(350 species), medical (500 species), aromatic (150 species) and food producing (130 species). The laboratory has arable land, laboratory rooms with necessary equipment for evaluating the value of plants' resources, the selection of species and their promotion in the economy sectors.

KEYWORDS ON CORE COMPETENCIES

plants; evaluation of resources; introduction of species; ethnobotany; economic botany.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

New cultures have been introduced in the national economy : i.e. *Galega orientalis* (fodder plants), the Speranta variety, and other 15 new varieties of medicinal and aromatic plants. New technologies have also been developed for the rapid multiplication and cultivation of valuable species.

INTERNATIONAL COOPERATION EXPERIENCE

Botanical Garden of the University Al.Ioan Cuza, Iasi, Romania;

Botanical Garden of the University of Bucharest, Romania,

University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania.

Moldovan-British Association RESENDJER (methods for rapid multiplication and establishment of industrial plantations of herbs, medicinal plant research for pharmaceutical properties)

THE LABORATORY OF ECOLOGICAL CHEMISTRY

THE INSTITUTE OF CHEMISTRY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory was set up on the 6th of April, 1962, under the name of “The Laboratory of Mineral Materials”. It was later named as “The Laboratory of Mineral Materials and Water Chemistry”, and recently it got the name of “The Laboratory of Ecological Chemistry”. The laboratory was founded by Nicolai Labanov (1897-1972), Doctor of Chemistry; afterwards modernized by Valeriu Ropot (1934-2002), Doctor of Chemistry, laureate of the State Prize Of Moldova. Nowadays it is under the patronage of Tudor Lupascu, Doctor Habilitate of Chemistry, Professor and Laureate of the State Prize of Moldova. Number of employees : 12

KEYWORDS ON CORE COMPETENCIES

synthesis of activated carbons; activation of mineral sorbents; chemistry of construction materials; analytical control of ecosystems; adsorption mechanisms of pollutants

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Synthesis of activated carbons with anticipated properties from vegetable raw materials for the protection of the environment and humans;

Preparations from wine making waste, having antimicrobial and antifungal properties;

Developing of the technology of the production of activated carbons from fruit stones, grape seeds and shell nuts by physicochemical and chemical methods;

Elaboration of novel methods and technological procedures to make potable water from ground and surface sources, purification of waste water and evaluation of agricultural by-products.

INTERNATIONAL COOPERATION EXPERIENCE

SCOPES (2009-2012) (IZ73Z0_128036) - „Xenobiotic Input to the Prut River (XENOPRUT)”.

Project funded by **Joint Program ASM-RFBR (2006-2008)** : New carbon and mineral adsorbents with different cores : their structure and properties.

Project funded by **INTAS (2006-2008)** : Optimization of Tartaric acid ethanol extraction from winery wastes; utilization of the new synthesised compounds with biological activity and antioxidant properties.

Project funded by **CRDF-MRDA (2005-2007)** : Implementation and optimization of the Activated Coal Mass - production using non-traditional raw material.

Project funded by **CRDF-MRDA (2003-2005)** : Ion exchanges and catalysts from carbon adsorbents for water treating.

THE INSTITUTE FOR ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT RESEARCH

FREE INTERNATIONAL UNIVERSITY OF MOLDOVA

Organization activity type : **HU**

FP7 theme : **ENV**

Contact person : Academician Ion Dediu

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Moldova

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute for Environmental and Sustainable Development Research is a subdivision of the Free International University of Moldova.

Its main tasks are :

- research activities in the field of environmental quality. In the frame of such research, experts from our institute in cooperation with The Academy of Sciences have performed a study of different functional zones of the town of Chisinau and prepared a balance of main pollutants in the urban ecosystem;
- developed a number of documents on environmental planning according to the provisions of EU environmental Directives;
- prepared training curriculums for different target groups of the population and environmental impact assessment.

KEYWORDS ON CORE COMPETENCIES

methodology for environmental impact assessment; environmental management planning documents; preparation of the pollution balances; estimation of superficial runoff toxicity; toxicological experiments with test species

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- toxicological estimation of runoffs in different functional zones of the urban landscapes;
- material flow accounting for environmental impact assessment;
- river basin management plans according to the EU Water Framework Directive;
- plans for implementation of the EU Directives;
- training technics in environmental management, ecological expertise and monitoring.

INTERNATIONAL COOPERATION EXPERIENCE

- Cooperation in the **Frame of International Commission for the protection of the Danube River (ICPDR)**;
- Cooperation with **International Association for the Danube Research (IAD)**;
- Cooperation with **Global Water Partnership** in development of **Integrated River Basin Management Plans (RBMP)**;
- international project for organizing **Danube Days** events in different parts of Moldova,
- cooperation with the **Danube Delta Biosphere Reserve Authority**, Tulcea, Romania - management of the protected areas on the example of the Danube Delta.

AGROECOLOGY AND SOIL SCIENCE DEPARTMENT

STATE AGRARIAN UNIVERSITY OF MOLDOVA

Organization activity type : **HU**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Department of Agroecology And Soil Science includes : a laboratory, a research station, and polygons in the EDS “Chetrosu” with research facilities. There are 8 doctors of sciences and 6 other members as staff.

The department has elaborated 5 recommendations in : agroecology, evaluations of soil degradation processes in Moldova, durable use of the soils resources, and re-establishment of the degraded soils.

KEYWORDS ON CORE COMPETENCIES

soil evaluation; degradation; soil compaction; erosion protection; ecological monitoring

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

ecological monitoring, land and soil monitoring; soil and land evaluation; environmental and erosion protection, reconstructing and improving of lands; measures for desertification prevention.

INTERNATIONAL COOPERATION EXPERIENCE

2010-2012 : Testing new fertilizers for authorized use in agriculture : the study of the impact under pedofauna for the restoration of soil fertility (Republic of Moldova - Romania.

2006-2008 : Individual Mobility Grant MOL 3008-2006 (Retraining - Study - Collaboration - Dissemination) - to design a university curriculum for a new course of Ecological Monitoring; IMG-MOL3008-2006 TEMPUS - TACIS, Ecological monitoring.

1998-2001 : Inco-Copernicus Project - “Experiences with the impact of subsoil compaction on soil nutrients, crop growth and environment and ways to prevent subsoil compaction” [ERBIC15-CT98-0125(DG12-CDPE)].

1998-2001 : Soil Degradation in Central and Eastern Europe (SOVEUR Project) (GCP/RER/007/NET) FAO /Netherlands (ISRIC).

THE INSTITUTE OF CROP PRODUCTION “PORUMBENI”

Organization activity type : **RES**

FP7 theme : **ENV**

Contact person : Dr. Pojoga Vasile

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webpage : www.porumbeni.md

BRIEF DESCRIPTION OF THE ORGANIZATION

The main activities of the institute are : maintenance, evaluation and multiplication of germplasm sources for corn, and the maintenance of the sources for cytoplasmic sterility;

The production, quality control of parental forms, and technology transfer of scientific elaborations for improving seed production technologies;

The study and development of selection material on the main biochemical and physiological indices;

Improvement of maize cultivation technologies : crop rotation, fertilization and the integrated protection of corn from weeds, pests and diseases. In the last five years we created 30 new corn hybrids and implemented 8 of them. Working staff : 110 persons.

KEYWORDS ON CORE COMPETENCIES

corn; germoplasm sources; parental forms; maize hybrids; seed production

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Our institute is the coauthor of all commercial and new maize hybrids developed inside the organization. We have 15 inventions and more than 130 certificates of plant varieties. The institute holds a collection of over 2000 corn germplasm sources.

The main competencies are :

- the creation and evaluation of lines with general and specific combining ability to synthesize new hybrids;
- the evaluation of hybrids by VCU agronomic indexes and their parental forms the criteria for protection DUS test;
- quality control of seeds the typical level of hybrids and parental forms.

INTERNATIONAL COOPERATION EXPERIENCE

Belarus State Agricultural Academy, Gorki, Belarus;

The National Scientific and Practical Centre of Belarus;

ООО “РУССКИЕ СЕМЕНА” (LLC “Russian Seeds”);

Agricultural Research and Development Station (ARDS), Turda, Cluj, Romania;

Spirou SA -”The House of Agriculture” Company, Greece;

Institute of Breeding and Genetics, Odessa, Ukraine

THE GIS LABORATORY

TIRASPOL STATE UNIVERSITY

Organization activity type : **RES**

FP7 theme : **ENV**

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Republic of Moldova

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BRIEF DESCRIPTION OF THE ORGANIZATION

The GIS Laboratory was founded in 2005.

The 6 members of the laboratory have been involved in basic and applied research projects during the last years. Results of our research have been presented at international and national conferences, as well as materials were published in speciality publications.

The Laboratory's current issue of research is "Modelling and spatial analysis of natural hazards and human impact on the environment in Moldova".

KEYWORDS ON CORE COMPETENCIES

GIS; Spatial Decision Support Systems; remote sensing; natural hazards; cultural landscape.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Modelling and Spatial Analysis on natural and social phenomena, Geographical Information Systems, GPS, Remote Sensing, Spatial Data Infrastructures, Spatial Decision Support Systems.

INTERNATIONAL COOPERATION EXPERIENCE

2008-2009 : Sustainable Integrated Land Use of the Eurasian Steppe in Moldova, Ukraine and the Russian Federation project;

2006-2010 : **Danube River Basin GIS : The International Commission for the Protection of the Danube River (ICPDR)**;

2010 : **TEMPUS-1-2010-SE-JPCR project** "Geoinformational technology for sustainable development of ENP countries".

THE FACULTY OF VETERINARY MEDICINE

AGRARIAN STATE UNIVERSITY OF MOLDOVA

Organization activity type : **HU**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Department of Epidemiology, faculty of Veterinary Medicine includes the laboratory of virology, microbiology and immunology. The professor staff includes : two - doctor habilitatus in veterinary medicine, two doctors in veterinary medicine, one assistant, four post-graduates.

The scientific directions are : immunological status of new born animals, respiratory diseases of large ruminants and poultry infectious diseases.

KEYWORDS ON CORE COMPETENCIES

epidemiology; infectious disease; virology; microbiology; immunology.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Epidemiology and surveillance systems in infectious diseases, microbiology, virology, immunology, infectious diseases of large, small animals and poultry. Diagnostics facilities, elaboration and implementation of contingency plans in infectious diseases, improve the schemes and methods of vaccination against poultry infectious diseases.

THE LABORATORY OF SOIL AMELIORATION

THE INSTITUTE OF PEDOLOGY, AGROCHEMISTRY AND SOIL PROTECTION "N.DIMO"

Organization activity type : **RES**

FP7 theme : **ENV**

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MD2070 Chisinau

Republic of Moldova

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory was created in 1953 as a component to the Institute of Pedology, Agrochemistry and Soil Protection (IPASP). Its main research domains include the study of soils' ameliorative capacities, water quality for irrigation purposes and soil salinity. The laboratory staff includes 8 researchers. Research results are implemented at the experimental crop fields in commune Cozesti, district Telenesti; commune Tarigrad, district Drochia; and on the agricultural fields of farmers, in different parts of Moldova.

KEYWORDS ON CORE COMPETENCIES

soil amelioration; water quality; risk irrigation; amelioration technologies; ameliorative capacity

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Estimation of the quality of water for irrigation purposes;
- Recover fertility to saline soils;
- Estimation of the ameliorative state of the plain soils and the adaptability at various utilizations;
- Technologies for normalising soil salinity;
- Measures to prevent and combat the degradation of irrigated soils;
- Calculation of maximum permissible limits (MPL) of wastewater pollutants into the river waters;
- Amelioration method of saturated soils with substances was advanced which have an increased content of calcium (gypsum, food industry wastes).

INTERNATIONAL COOPERATION EXPERIENCE

2009 : Study and development of ameliorative state remedial processes of soil fertility affected by salts;

2008 : Grant TF 053023. Agriculture Pollution Control Project (APCP).

2007-2008 : Elimination of acute risk from old pesticides in Moldova". NATO Science Program, CLG.

2007-2008 : The study of vines on slopes for reducing erosion, maintaining soil fertility and obtaining ecological production.

2003-2008 : The evaluation of natural and anthropical conditions which influence soil degradation, and the elaboration of practical recommendations for the attenuation of unfavourable ecopedological factor consequences.

2006 : "Republic of Moldova : Enabling Activities for the preparation of the Second National Communication under the UNECC. UNDP/GEF Project.

THE LABORATORY OF PEDOLOGY

THE INSTITUTE OF PEDOLOGY, AGROCHEMISTRY AND SOIL PROTECTION "N.DIMO"

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Pedology is a part of IPASP, founded in 1946. It has 12 scientific researchers. In terms of equipment it includes flame photometry PAJ-2, photocolormetry KFK-2, pH-metry Dron - 3M, electronic microscopes, spectrophotometry SF-6, hardware and software for quality control and soil property investigations. The laboratory tests its research results and technologies at the Experimental Station for Pedology, Agrochemistry and Ecology in commune Ivancea, the district of Orhei.

KEYWORDS ON CORE COMPETENCIES

pedology; soil genesis; soil classification; field and engineering research; mapping and soil surveying

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Pedological cartography on a 1 : 10000 scale of the Ivancea commune territory fields;
- Production capacity and quality grade study of soils;
- Adaptability of the agricultural fields for different utilization;
- Determining the biological indexes of soil quality in the farms for soil recovery and protection.
- Classification and diagnosis of Moldovan soils;

INTERNATIONAL COOPERATION EXPERIENCE

2006-2010 : Sustainable use of deep gleyed stagnic chernozems - studies and recommendations on the genesis, taxonomy and reliability and monitoring systems .

2009 : Sustainable agricultural use of stagnic chernozems - genesis, taxonomy, reliability studies and monitoring and elaboration of recommendations.

2009 : Evaluation of the resistance of state and soil microorganisms to reduce the degree of degradation and preservation of fertility.

2007 : **NATO Science Programme & CLG & EST**. Mitigation of water stress in agricultural soils by rhizobacteria.

2006 : **UNDP & GEF** - Enabling Activities for the preparation of the Second National Communication under the UNECC.

2005 : **UNDP & GEF** - Self-evaluation of the national capacity for Global Environmental Management. "Combating Desertification".

2005 : **NATO Science Program & CLG** - "Impact of rhizobacterial exopolysaccharines on environmental security".

THE LABORATORY OF MODELLING, ECONOMICAL AND ECOLOGICAL ANALYSIS

THE INSTITUTE FOR PLANT PROTECTION AND ECOLOGICAL AGRICULTURE OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory has 11 researchers and technicians. The main researched topics are : elaboration of development models for major agriculture pests and diseases, economical and ecological expertise of new technologies for plant protection. Our experiments are supported by two software programmes for decision support, based on fuzzy logic, GIS and multi-criterion analysis.

KEYWORDS ON CORE COMPETENCIES

pests; plant protection; forecast; ecology; modelling

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Pest-plant interaction modelling. Development of decision support systems for agriculture. GPS GIS technologies in agriculture. Fuzzy logic models.

INTERNATIONAL COOPERATION EXPERIENCE

2007-2009 Climate Change Project

2006-2009 Virginia-Tech Project- Site coordinator

2002-2003 Project MBI-3004 CRDF/MRDA - "Integrated Pest Management of Specialty Crops in Eastern Europe"

1999-2000 Grant from GEF-UNDP on a Climate Change Project

IPM CRSP Regional Project Albania, Moldova and Ukraine

THE LABORATORY OF SEISMOLOGY

THE INSTITUTE OF GEOLOGY AND SEISMOLOGY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory staff consists of 13 collaborators and 4 Doctors of Philosophy.

Representative publications in the last 5 years :

Alkaz V., Zaicenco A. and Isiciko E., 2009, Seismic Microzonation Of Chisinau : A Tool For Reducing Seismic Risk, NATO Science for Peace and Security Series, 2009, Harmonization of Seismic Hazard in Vrancea Zone, 117-132

Zaicenco, A ; Alkaz, V., 2008, Analysis of the SSI from an instrumented building response. The Structural Design of Tall and Special Buildings. 17 (2), 387-399.

Zaicenco A., Alcaz V., 2008, Numerical Solution of an Elastic Wave Equation Using the Spectral Methods, NATO Science for Peace and Security Series, 2009, Harmonization of Seismic Hazard in Vrancea Zone, 319-327

KEYWORDS ON CORE COMPETENCIES

earthquake hazards; vulnerability; monitoring

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Economical and social impact from seismic hazards using GIS Technologies;

Seismic Monitoring Systems;

Site Effects Analyses;

Natural Hazards and Hazards Policy;

Holistic Approach in Urban Seismic Risk Assessment;

Multi-hazard (earthquake, landslides, floods) Vulnerability Assessment and Risk Mitigation;

INTERNATIONAL COOPERATION EXPERIENCE

2006-2008 : **NATO Project** - "Harmonization of Seismic Hazard and Risk Reduction in Countries Influenced by Vrancea Earthquakes";

2006-2008 : **NATO Project** - "Quantification of Earthquake Action on Structures";

2006-2008 : **INTAS Project** - "Numerical analysis of 3D seismic wave propagation using Modal Summation, Finite Elements and Finite Difference methods ".

DEPARTMENT OF AGRIFOOD ECONOMICS AND RURAL DEVELOPMENT

THE INSTITUTE OF ECONOMY, FINANCE AND STATISTICS

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Economy, Finance and Statistics (IEFS) is an organization in the science and innovation field, created as a result of merging the Institute of Economic Research of the Academy of Science of Moldova and the National Institute of Economy and Information of the Ministry of Economy and Trade. Within IEFS there are 5 working services and 6 departments : “Policies and mechanisms of economic growth”; “Agro-food economics and rural development”; “Financial and monetary policies”; “Social-economic statistics”; “Policies of social development”; “Analytical and informational studies”. At the moment, the Institute employs 105 persons.

KEYWORDS ON CORE COMPETENCIES

Policies, monitoring, evaluation, risk, management

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Analyses performances of the agriculture and agri-food trade of Moldova in regional aspect;
- Identifies development, structural adjustment and agricultural diversification policies in Moldova for the proximate future in the context of European integration process;
- Elaborates the concept of risk alleviation and food security assurance of Moldova in conformity with the Complex of joint measures for increasing the food security of the CIS;
- Elaborates the draft food security strategy.

INTERNATIONAL COOPERATION EXPERIENCE

- IFC, Food Safety System Analysis in Moldova;
- FAO, Regional Office for Europe and Central Asia : Study on Food Price Surge of 2006-08 : Food Price Changes, their Impact and Policy Responses(2008);
- World Bank, Elaboration of the National Strategy for Natural Hazards Mitigation(2008).

THE DEPARTMENT OF FINANCE AND STATISTICS OF AGRIFOOD ECONOMICS AND RURAL DEVELOPMENT

THE INSTITUTE OF ECONOMY, FINANCE AND STATISTICS

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The department comprises of 11 researchers.

The main activities of the department are : research, economic policy analysis, as well as policy evaluation and elaboration.

KEYWORDS ON CORE COMPETENCIES

policies; monitoring; evaluation; risk management

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- The analysis of performances in agriculture and agri-food trade of Moldova, a regional aspect.
- Identification of development, structural adjustment and agricultural diversification policies in Moldova for the proximate future in the context of the European integration process.
- Elaboration of the concept of risk alleviation and food security assurance for the Republic of Moldova in conformity with the Complex of joint measures for increasing the food security of the CIS.
- Elaboration of the draft food security strategy

INTERNATIONAL COOPERATION EXPERIENCE

2008 FAO, Regional Office for Europe and Central Asia : Study on Food Price Surge of 2006-08 : Food Price Changes, their Impact and Policy Responses

2008 World Bank, Elaboration of the National Strategy for Natural Hazards Mitigation IFC, Food Safety System Analysis in Moldova

THE LABORATORY OF MAMMAL ECOLOGY

THE INSTITUTE OF ZOOLOGY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

Contact person : Dr. Victoria Nistreanu

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Republic of Moldova

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webpage : www.zoology.asm.md

BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Mammal Ecology is a prestigious scientific centre, which coordinates and accomplishes fundamental and applied scientific researches, trains highly qualified personnel in the branches of theriology, herpetology, mammal ecology and behaviour. There are 14 researchers and specialists in the field of mammal, reptile and amphibian study that activate within the lab. In the last 5 years, there have been published 2 monographs, 7 manuals, 3 brochures and about 100 scientific papers. A concept of adaptive modifications of animal populations was also proposed and researched.

KEYWORDS ON CORE COMPETENCIES

mammals; ecology; diversity; conservation; ethology

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Study of structural-functional organization of terrestrial vertebrate populations in natural and anthropogenic ecosystems;
- Elaboration of animal world monitoring methodology and of the Cadastre of animal world from Moldova;
- Modelling of population processes of important economic animal species and the prognosis of their dynamics;
- Population status monitoring of endangered vertebrate animal species and recommendations towards their conservation.

INTERNATIONAL COOPERATION EXPERIENCE

2008-2009 : Ecological-ethological adaptation strategies of some micro mammal species to the anthropogenic modification of the environment (on the example of agrocenoses and urbanized territories of Moldova, Moscow and Moscow region). 08.82008. 14R.

2006-2007 : Adaptation strategy of small mammals to anthropogenic modifications of environment (on basis of some examples from The Central Russia and Moldova. 06.23 CFR.

THE LABORATORY OF ECOBIOINDICATION AND RADIOECOLOGY

THE INSTITUTE OF ECOLOGY AND GEOGRAPHY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

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Republic of Moldova

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webpage : www.ieg.asm.md

BRIEF DESCRIPTION OF THE ORGANIZATION

Chief of laboratory : Dr A.Begu, Staff members : 15

Assessment of the human impact on forest ecosystems in Moldova (around 80) through biological monitoring, connected to the EMEP.

Composition of the lichenoflora and brioflora register from the forest ecosystems (around 70) from Moldova and indication of species' true bioindicators of the quality of the environment.

Study of the correlation between species' diversity, abundance, frequency and grade of toxico-toleration of bioindicators, (fito- and zoindicators), depending on species, altitude and air pollution, expressed by air pollution index.

KEYWORDS ON CORE COMPETENCIES

bioindication; heavy metals; air pollution; EMEP; natural protected areas

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Expertise in issues of biodiversity and biological monitoring in natural ecosystems and anthropic problems in the field of biodiversity conservation.

The assessment of anthropic impact on the ecological state of ecosystems; Passporting of the state protected areas and the proposing of new areas.

INTERNATIONAL COOPERATION EXPERIENCE

Cooperation in the context of Subregional Activities in the Countries of Eastern and South-Eastern Europe (Convention of the Geneva, 1979),

Bilateral cooperation with Baia Mare North University (Romania), Cernauti University (Ukraine), Institute of Botanic "Holodnii", Kiev (Ukraine)

THE LABORATORY OF CLIMATOLOGY

THE INSTITUTE OF ECOLOGY AND GEOGRAPHY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

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Republic of Moldova

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory's main fields of study are : regional climate modifications' estimation in the context of global climate changes, its impact on ecosystems, and the elaboration of climatic risk factors' identification and estimation criteria. Staff (7) : PhD Nedeaľcov M., PhD Raileanu V., PhD Putintica A., PhD Machidon M., Mleavaia G., Cojocari R., Crivova O.

Research achievements :

"Republic of Moldova's climate particularities influenced by the Black Sea" maps set publication, Chisinau, 2007;

The elaboration of digital atlas „Climatic Resources”;

"Natural Resources" monograph edition, Chapter „Climatic Resources", Chisinau, 2006;

"Natural Regional Hazards" monograph edition, Chisinau, 2009

KEYWORDS ON CORE COMPETENCIES

Climate change; stochastic models; GIS; climatic risks; agroclimatic potential

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

(2003-2004) : **UNCCD project** "Proposal from the Secretariat of the UNCCD for the institutional support to the Republic of Moldova in the implementation of the Convention and national expert (2006) in "Support for the Implementation of the National Biosafety Framework for Republic of Moldova"; Capacity needs for Biosafety Monitoring, Inspection and Control, expertise in climatic resources estimation problems;

Competencies : Expertise in problems of climate change estimation; recommendations for terrain use optimization and agricultural plants placement according to territories' agroclimatic potential.

Technologies : Regional GIS, Regression modelling, stochastic modelling, deterministic models

INTERNATIONAL COOPERATION EXPERIENCE

2005-2007 : **INTAS** "New methods of information treatment for management of water quality in river basins"

2006-2007 : **RFFI** "The study of Black Sea Basin's thermal and hydrodynamic regime influence over climate changes on Republic of Moldova territory" in collaboration with Institute of Biophysics, Siberian Department of the Russian Academy of Sciences, Russia

2009-2010 : "Landslide susceptibility assessment in central part of Moldova"

THE LABORATORY OF ECOLOGY OF HUMAN SETTLEMENTS

THE INSTITUTE OF ECOLOGY AND GEOGRAPHY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Directions of research :

- Ecology and environment protection
- Evaluation of the influence of polluted waste sites upon the phytocenoses and species of the plants
- The determination of the factors referring to the heavy metals migration in the system „soil-plant”;
- Estimation of the EI on the environment, caused by pollutants generated in the process of residual water (RW) purification at the biological purification plant;
- Elaboration of new technologies of the dangerous wastes valorification (galvanic, vanadii, cyani based on the chemical-technological and biological methods;
- Elaboration of the biological methods purification of RW BPP by algal macro and microphytes; identification of waste polluted soils, study of hazardous substances migration in soils for population safety;
- Study on the structure and state of the Chisinau ecourban system for sustainable development, and development of management plans for pollution reduction of the city.

KEYWORDS ON CORE COMPETENCIES

Waste management; ecological impact; waste valorification; phytocenoses; biological diversity indices; contamination and degradation of soils

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Waste Management Concept elaboration for the Republic of Moldova;
Technologies for waste (galvanic, vanadium and $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$ treatment,
Ecological expertise for the industrial enterprise; organization of scientific research in management in of Industrial Waste; performing the Ecological Expertise for Authorization of economical activities; elaboration of management plan for pollution reduction in the capital city of Moldova - Chisinau

THE NATIONAL CENTRE FOR HEALTH MANAGEMENT

Organization activity type : **RES**

FP7 theme : **ENV**

Contact person : Dr. Mihail Paianciuc

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webpage : www.cnms.md

BRIEF DESCRIPTION OF THE ORGANIZATION

The National Centre for Health Management is a public institution, organized under the Ministry of Health of Moldova.

Objectives in the field of its scientific research :

- Coordinate scientific research in public health, economy and health management;
- The study of health indicators and their determinants, and participation in the development of health improvement programmes, including participation to existing national programs;
- The development of new methods of organizing health services, routing, financing and resource generation;
- The study of economic efficiency, effectiveness and cost-benefits of health services.

KEYWORDS ON CORE COMPETENCIES

Public health quality; efficient health services; health lifestyle; public opinion on health living conditions

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Improvement of the physiologic-biochemistry potential of the microorganisms as biotechnological objects;
- Elaboration of production technologies of the bioactive preparations designated for use in agriculture and medicine; food, pharmaceutical and cosmetic industry;
- Conservation and efficient utilization of microbial resources.

INTERNATIONAL COOPERATION EXPERIENCE

2008-2010 “National Health Accounts”

2007-2010 “Support for the development of the home care system in Moldova

2007 : “Sustainable tuberculosis treatment of the children from Moldova - implemented by Caritas Moldova”

2006 : “Development and Implementation of the National Health Policy”

2006 : “The estimation of alcohol abuse prevalence among the patients from Chisinau’s primary health care institutions of Moldova”

2006 “Strengthening of National Health Informational System”

2005-2006 : “Actives NGO study in the field of drug abuse and traffic”

2005-2006 “Public Health Reform Project, Moldova” funded by the European Union

THE LABORATORY OF AGROCHEMISTRY AND PLANT NUTRITION

THE INSTITUTE OF PEDOLOGY, AGROCHEMISTRY AND SOIL PROTECTION "N.DIMO"

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Agrochemistry and Plant Nutrition was founded in 1946 as a part of IPASP. It has 11 ongoing scientific research programmes. The research results and technologies are tested at the experimental stations in the commune of Ivancea, Orhei district, and the commune of Grigorievca, Causani district.

Technical equipment : flame photometry PAJ-2, photocolometry KFK-2, pH-metry.

KEYWORDS ON CORE COMPETENCIES

Soil agrochemistry; plant nutrition; soil nutrients; soil & plant diagnosis; humus balance

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Agrochemical research concerning the effective level of soil fertility (content of humus, nitrification capacity and mobile forms of phosphorus and potassium);
- Complex diagnosis of mineral nutrition plans in order to obtain high quality winter wheat harvests (content of gluten - 25-26%);
- Agrochemical and phytotechnical activities for increasing the soil fertility and productivity of agricultural plants by 35-45%;
- Determining and regulating humus and the balance of nutritive elements in the soil for ecological production.

INTERNATIONAL COOPERATION EXPERIENCE

2006-2010 : Nutritional status and nutrient management assessment in different soil types and subtypes of crop field;

2009 : Nutritive systems states and nutrient management evaluation of various types and subtypes of soils in cropping systems 2006-2010;

2009 : TACIS Project FD MOL 9901 - Ameliorative strategies study and the development of agro foods in the period of 2002-2010;

2008 : GEF Project - Pollution control in agriculture. "The management of organical residues and nutrients and the protection of the soil";

2008 : C nr.40 T. - The implementation of soil-plant diagnosis of mineral nutrition plans to obtain the planned high quality winter wheat harvest.

THE LABORATORY OF SOIL EROSION PROTECTION

THE INSTITUTE OF PEDOLOGY, AGROCHEMISTRY AND SOIL PROTECTION "N.DIMO"

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory was founded under the name of The Soil Erosion Research Station in 1948.

In 1953, it became the Laboratory Of Soil Erosion Protection, as part of IPAPS, and has 9 scientific researchers.

KEYWORDS ON CORE COMPETENCIES

Soil erosion; hydrographic basin; humus and nutrients; soil erosion monitoring

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Determination of erosion dangers : losses of soil fertility, humus and nutrients;
- Phytoameliorative and agrotechnic actions for preventing and combating in depth erosion;
- Measures to prevent landslides and erosion; the recovery of the affected territories;
- Input of earth material for the amelioration of highly eroded soils;

INTERNATIONAL COOPERATION EXPERIENCE

2006-2010 : Erosion hazard evaluation system and development framework of measures to combat soil erosion on the river basins.

2009 : Evaluation of the erosion dangers and the elaboration of methods for combating river basin soil erosion at the river basin;

2008 : GEF "Implementation of agricultural practices and soil quality monitoring"

2008 : MRDA System of measures for diminution erosion and increase soil fertility.

2007-2008 : The study the spaces between in the vines on slopes for reducing erosion, maintain the soil fertility and obtaining of the ecological production.

2007 : CRDF Category : „Soils. Climate Impact on soil erosion processes”.

2005-2008 : Grant TF 053023 Agriculture Pollution Control Project (APCP).

RESEARCH INSTITUTE OF FIELD CROPS “SELECTIA”

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Department of Sustainable Farming Systems is involved in conducting long-term field experiments with different crop rotations, monoculture, different systems of soil tillage and soil fertilization in crop rotation, irrigation in crop rotation.

The duration of such experiments is almost 5 years.

The number of staff in the department : 30 people, which includes 11 researchers.

Experimental data has been obtained regarding the influence of crop rotation, monoculture, systems of soil tillage and soil fertilization on crop productivity and soil fertility. More than 70 articles have been published, including 2 monographs. The results are being used permanently for seminars.

KEYWORDS ON CORE COMPETENCIES

Soil fertility; soil organic matter; crop rotation; soil tillage; soil fertilization

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Researches in long-term field experiments allowed to gain expertise and competencies in : crop rotations, monoculture, systems of soil tillage and fertilization in crop rotation, irrigation, weed control, soil organic matter.

INTERNATIONAL COOPERATION EXPERIENCE

During the last 15-20 years we have developed a cooperation program on the above mentioned issues with :

Michael Fields Agricultural Institute, Wisconsin, USA

Institut national de la recherche agronomique (INRA), Clermont-Ferand, France.

University of Udine, Udine, Italy

University of Bern, Bern, Switzerland

Swiss College of Agriculture (SHL), Zollikofen, Switzerland

Timiryazev Agricultural Academy, Moscow, Russia

The Institute of Soil Science and Plant Cultivation, Pulawy, Poland

THE INSTITUTE OF EDUCATIONAL SCIENCES

Organization activity type : **RES**

FP7 theme : **ENV**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Institute of Educational Sciences is a national institute for research and development in education.

Through research, publications, policy recommendations the Institute provides educational leadership in the educational system from the Republic of Moldova.

KEYWORDS ON CORE COMPETENCIES

Continuous training, educational policies, curricula development, inclusive education, social protection

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Analytical reports with regard to education (National report “The Prospects of Teacher Education in South-East Europe”), other annual and thematic reports.
- National and international educational projects identification and participation.
- The elaboration of school curricula.
- Investigating themes referring to social-human education.

INTERNATIONAL COOPERATION EXPERIENCE

2009 : Coauthor of the study “Secondary Education - child-friendly schools assessment” (Ministry of Education & UNICEF).

The aim of the study was to assess the quality of the basic education in Moldova through the five necessary dimensions for child-friendly schools : • inclusive and noninclusive, • academically effective, • healthy, safe and protective, • gender-responsive, • involved with students, families and communities. The study contains recommendations for public policy, aimed to implement the concept of Child-Friendly Schools in the educational system from Moldova;

2010 : Modernization of school curricula : Institute of Educational Sciences & UNICEF;

2007 : Local counsellor : Elaborating standards of professional continuous training as part of a World Bank Project “Quality education in rural areas of Moldova”, implemented by the Ministry of Education and Youth, without a specialized PIU (Project Implementation Unit);

2005 : Coauthor of the national report : The prospects of teacher education in South-East Europe, Republic of Moldova, Educational Policy Studies of Education.

University of Ljubljana, Faculty of Education, Ljubljana.

LABORATORY OF PLANT BIOCHEMISTRY, RESEARCH CENTRE OF LIFE SCIENCES

STATE UNIVERSITY OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **ENV**

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Republic of Moldova

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BRIEF DESCRIPTION OF THE ORGANIZATION

Research laboratory, within the Faculty of Biology at the State University of Moldova;
Staff : 8 collaborators including 1 doctor habilitat and 5 doctors in biology.

Research achievements :

Subunit structure and crystallization of soybean basic 7S globulin. Origin and evolution of the protein.
Isolation, crystallization and X-ray structure of protheolytically modified 7S globulin from kidney beans.
Proteolysis kinetics of storage globulins from some legume and gymnosperm species.
Evolution of regulatory region (promoters) of seed storage globulin genes.

KEYWORDS ON CORE COMPETENCIES

Seed proteins, proteolysis, seed proteinase, molecular evolution, protein structure

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Limited and cooperative proteolysis mechanisms responsible for mobilization of storage proteins in germinating seeds. Isolation, crystallization and X-ray structure of seed proteins, modified by limited proteolysis. Regulatory role of limited proteolysis in degradation of seed storage globulins from some legume and gymnosperm species.

INTERNATIONAL COOPERATION EXPERIENCE

University of New York, New York, USA

Kyoto University, Kyoto, Japan

Institute of Plant Genetics and Crop Plant Research, Gatersleben, Germany

N.I. Vavilov Institute of Plant Research, St.-Petersburg, Russia;

N.M. Emanuel Institute of Physical Biochemistry, Moscow, Russia

ENT LABORATORY

STATE MEDICAL AND PHARMACEUTICAL UNIVERSITY "NICOLAE TESTEMITANU"

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Nine scientists dedicate their work to the elaboration of theoretico-practical principles of functional rehabilitation of the ENT (ear, nose, throat) organs in patients with inflammatory ENT pathology.

The management based on : the analysis of predisposing factors, chronization prognosis, anatomical factors, functional-morphological correlations, interleukin exploration and comprehensive algorithm; and the application of up-to-date surgical techniques (FESS, tympanostomy, local immunotherapy, endoscopic laryngo-surgery) reduces the treatment duration and conditioned functional restoration of the ENT organs.

KEYWORDS ON CORE COMPETENCIES

recurrent and chronic sinusitis; evolution of otitis media in childhood; chronic tonsillitis; immunology; functional endoscopic sinus surgery; tympanostomy.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Management of nose and paranasal sinus abnormalities; recurrent and chronic sinusitis in children; functional endoscopic sinus surgery in children; evolution of otitis media in children; the algorithm of differential diagnostic, system of management (medical treatment, tympanostomy) in different forms of otitis media; chronic tonsillitis, immunology, local injection of activated lymphocytes; papillomatosis of larynx, immunology, microstroboscopy, surgery, immunocorrection.

INTERNATIONAL COOPERATION EXPERIENCE

- **The Department of Otorhinolaryngology**, Mayo Clinic, Rochester, Minnesota, USA
"Otology, audiology and otosurgery in the pediatric population" - 3 bilateral Projects;
 - **APFA Humanitaire**, France : "Hearing screening in preschool institutions, tympanosty in children with otitis media with effusion" - 2 bilateral Projects
- ENT Clinic, Sf. Spiridon Hospital**, Iasi, Romania
Institute of Phono-Audiology and ENT Functional Surgery "Dorin Hociota", Bucharest, Romania
Institute of Otorhinolaryngology A.Kolomyichenko, Kiev, Ukraine

ENDOCRINOLOGY DEPARTMENT

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **HE**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Department of Endocrinology within the Scientific Laboratory has 8 collaborators, from which there is 1 university professor and 4 associate professors. All collaborators are Doctors of Medicine.

Scientific directions are focused on the mechanisms of development of autoimmune endocrine pathologies, such as type 1 diabetes, autoimmune thyroid diseases, autoimmune syndrome polyglandular.

KEYWORDS ON CORE COMPETENCIES

Diabetes mellitus type 1; autoimmune syndrome polyglandular; autoimmune thyroid diseases; addison disease.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The Department developed competencies in issues as incidence of endocrine diseases in the country, pathogenetic factors, development of disease symptoms, complications. Treatment methods have been adapted, taking into account the pathogenetic factors. The investigation results have been reflected in two manuals and methodical recommendations.

Department staff participate in national and international conferences, have publications in national and international scientific journals.

INTERNATIONAL COOPERATION EXPERIENCE

Cooperation with Department of Endocrinology from Iasi (Romania)

THE LABORATORY OF TISSUE ENGINEERING AND CELLULAR CULTURE,

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **HE**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Laboratory potential : 1 academician, 2 professors, 2 postdoc; 5 PhD students.

The field of interests : autologous mesenchymal stem cells; new methods of stimulation of the tissue regeneration using stem cell technology and tissue engineering; Recombinant human platelet-derived growth factor-BB in maxilo-facial bone regeneration; Experimental induced osteonecrosis of the jaws after biphosphonates therapy; Development of umbilical cord blood preservation methods and research of morphoinductive features of umbilical cord blood cells; Possibility of application of the stem cells grafts in treatment of degenerative disorders of the skeletal tissues, reproductive and urogenital systems.

KEYWORDS ON CORE COMPETENCIES

Stem cells, cord blood stem cells, bone regenerations, bone defects, stem cells in tipe I diabetes.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Autologous mesenchymal stem cells; new methods of stimulation of the tissue regeneration using stem cell technology and tissue engineering; Recombinant human platelet-derived growth factor-BB in maxilo-facial bone regeneration; Experimental induced osteonecroses of the jaws after biphosphonates therapy; Development of umbilical cord blood preservation methods and research of morphoinductive features of umbilical cord blood cells; Possibility of application of the stem cells grafts in treatment of degenerative disorders of the skeletal tissues.

INTERNATIONAL COOPERATION EXPERIENCE

- 2002-2003 : SCOPES „Development and clinical use of composite materials in bone replacement surgery”, No. 7 IP 65791;
- 2006-2007 : Project with Russia “The biological compatibility of implants and functional properties of advanced materials based on titanium alloys”- Russia;
- 2007-2008 : Grant Fullbright, USA, “Regulation of bone turnover by colony stimulating factor-1”;
- 2008-2009 : Project with Russia “ The biological compatibility and bacteriostatic properties of surfaces and large joints endoprosthesis for titanium-based alloys processed with silver ions “ _08.820.09.17R.

SCIENTIFIC CENTRE OF DRUG RESEARCH

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **HE**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The SCDR personnel consists of 6 habilitat doctors, 18 doctors of sciences, 28 scientific researches. Scientific activities focuses on the :

- Elaboration of complex preparation "Neamon-Hepa" which represents good opportunities for therapeutic options, prevention and/or improving the hepatic coma;
- Extraction of new active principle from the plant *Chelidonium majus*, named coptizine, its complete pharmaceutical-chemical analysis;
- Elaboration and analysis of izohidrafural, substance with antihypotensive properties. Extraction and analysis of active principles from plants *Hypericum perforatum* and *Crataegus* spp.

KEYWORDS ON CORE COMPETENCIES

drugs, chemical analysis, pharmaceutical industry, clinical trials, Neamon-Hepa.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Spectrophotometry UV-VIS, High-performance-liquid-chromatography, Gaze-chromatography, method of atomic absorption, pharmaceutical technological methods of preparing tablets, capsules and other pharmaceutical forms, clinical and pharmaco-toxicological studies.

NARCOLOGIC LABORATORY

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **HE**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The organization was established in 1985. Scientific personnel : 2 university professors, 4 doctors in medicine.

Estimations for the last 5 years show an increase in drugs use, especially that of adolescent use. Using anonym surveys through adolescents, it was evaluated that the potential consumption rate of PAS in Chisinau is $16,0 \pm 1,1\%$ and $14,5 \pm 1,1\%$ in Balti. Through discriminatory evaluations - risk factors, protection factors and their hierarchies have been established. Therefore, we find it necessary to orientate prophylaxes activities to achieve the following directions : provide objective information about drugs; inform children about the negative consequences of drug use, and indirectly orientate their decisions in order to eliminate potential drug addictions.

KEYWORDS ON CORE COMPETENCIES

Epidemiology, adults, substances psychoactive, risk factors, prevention.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Elaboration of anonymous surveys that help detect the potential users, the direct and indirect risk factors of adolescents' involvement in narcotics use;
- Elaboration of methodical guidelines related to primary prophylaxis of alcohol dependence, drugs dependence and other SPA for different categories of people.

INTERNATIONAL COOPERATION EXPERIENCE

- **Addictions Centre**, Iasi, Romania;
- **Psychiatry Institute "Serbskii"**, Moscow, Russia.

CARDIOLOGY DEPARTMENT, METABOLIC SYNDROME LABORATORY

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **HE**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Metabolic Syndrome Laboratory is carrying research activities within the Cardiology Department of the State University of Medicine and Pharmacy "Nicolae Testemitanu". Currently, there are 15 people operating in the laboratory.

In the last five years 2 international projects have been successfully fulfilled.

KEYWORDS ON CORE COMPETENCIES

metabolic syndrome; insulin resistance; arterial hypertension; dyslipidemia; obesity.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The strategic direction of the laboratory consists of an interdisciplinary approach towards the metabolic syndrome evaluating the cardiologic, endocrinological and biochemical factors of this condition. Having studied the syndrome since 1995, researchers have gained sufficient experience in the evaluation of the pathogenesis and treatment of the metabolic syndrome,

INTERNATIONAL COOPERATION EXPERIENCE

2008-2009 : "Pathophysiological mechanisms of insulin resistance and abnormal coronary flow in patients with metabolic syndrome"; research program between the Academy of Sciences of Moldova and the Belarus Republican Fund for Fundamental Research;

2006-2007 : "Lipid and glucide metabolism in patients with insulin resistance"; cooperation program between the Academy of Sciences of Moldova and the Russian Foundation for Fundamental Research.

DEPARTMENT OF ORTHOPAEDIC DENTISTRY, ORO-MAXILLO-FACIAL SURGERY AND ORAL IMPLANTOLOGY

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **HE**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The department's scientific personnel currently includes 9 teachers, a dental technician, and 1 operator. In the past five years the department has published over 50 papers in national and international journals, and has obtained ten patents.

There have been implemented contemporary methods of treatment such as : dental implantation; prosthesis dental implants; mandible reconstruction with titanium miniplates; mandible osteosynthesis with titanium miniplates by endooral approach; tissue therapy of trigeminal neuralgia; provide haemostasis by using human thrombin and amino caproic acid of 5% and more.

KEYWORDS ON CORE COMPETENCIES

Bleeding; haemostasis; blood clot; treatment; prophylaxis.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Dentistry, oro-maxillo-facial surgery.

SCIENTIFIC DEPARTMENT OF PAEDIATRICS

RESEARCH INSTITUTE FOR MATERNAL AND CHILD HEALTHCARE

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

A highly motivated team of 8 researchers with a leading professor, associate professor, senior researchers and PhD fellows has valuable scientific research experience in the following subjects :

- The role of the environmental factors in the development of children morbidity;
- Estimations of incidences of allergic diseases in children from Moldova;
- The impact of genetic and environmental factors on the onset of atopic diseases in children from Moldova • (e.g. Candidate gene typing, analysis of the genetic expression profile, study of immune mediators and genes of interleukins).

The research group is very motivated and open for collaboration.

KEYWORDS ON CORE COMPETENCIES

Allergy; paediatrics; epidemiology; genetics; immunology.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The experience from clinical and epidemiological studies represents an important background for the implementation of research findings on the genetic predisposition of atopy and other multifactorial diseases. The department has the necessary equipment for the functional evaluation and the immunological assessments of patients.

INTERNATIONAL COOPERATION EXPERIENCE

- An evaluation on the role that genetic and environmental factors play in pathogenesis of multifactorial disease in children, performed with the collaboration of a research team from the Laboratory of Prenatal Diagnostics and Inherited Diseases (Otto Institute Obstetrics and Gynaecology, Russian Academy of Medical Sciences, St. Petersburg, Russia).
- Ongoing project that foresees the implementation of a new method of providing informing to parents-“The Child Health Handbook”. The book aims to increase the interaction between families with children and the medical workers in order to improve the health care and medical assistance system for children. This work is being coordinated and supported by the International Committee on MCH Handbook (Japan), the UNICEF regional office in Moldova, and the Swiss Agency for Development and Cooperation in Moldova.

THE INSTITUTE OF PHYSIOLOGY AND SANOCREATOLOGY

THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Structure of the Institute : 5 Laboratories. Scientific potential : 74 members of staff.

Main scientific achievements :

- Unravelling a new conception on the phenomenon of health as a starting-point in sanocreatology;
- The theory of the sanocreatological nutrition;
- The mechanism of stress and its redefinition;
- The role of stressful factors in the pathogenesis of various disease, and the elaboration of methods of attenuation and correction of the negative results of excessive stress ;
- Establishing the theory on the healthy mode of life;
- The critical stages in the intra-uterine and post-natal development of the human embryo and foetus.

KEYWORDS ON CORE COMPETENCIES

sanocreatology; physiology of stress; somatic health; mental health; adaptation.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- The mechanisms of purposeful formation;
- Maintenance and strengthening of somatic and psychic health;
- The development of sanocreatology.

THE LABORATORY OF MICROBIOLOGY & MORPHOLOGY OF TUBERCULOSIS

THE INSTITUTE OF PHTHISIOPNEUMOLOGY "CHIRIL DRAGANIUC"

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Microbiology & Morphology of Tuberculosis(TB) functions as the coordinating body for the microbiological TB diagnosis services.

The laboratory performs microscopic investigations; isolations of pure M. tuberculosis cultures; epidemiological surveys of anti-TB drug resistance; molecular line probe assays for rapid screening of patients at risk of multidrug-resistant tuberculosis (MDR-TB).

The Laboratory is equipped with biosafety cabinets, autoclaves, BACTEC/MGIT, thermostats, PCR machines, equipment for genetic identifications of Mycobacteria, and fluorescent microscopes.

Staff of laboratory 10 : 5 MD (including 2 PhD), 5 lab technicians.

KEYWORDS ON CORE COMPETENCIES

Mycobacteria; tuberculosis; drug resistance; MDR TB; molecular LiPA.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Molecular line probe assays; isolation of pure cultures of M.tuberculosis (classic LJ method, BACTEC MGIT); fluorescence microscopy investigations; epidemiological survey of anti-TB drug resistance.

INTERNATIONAL COOPERATION EXPERIENCE

The laboratory participates in a few international projects :

- Rapid Tests for Drug Resistance to Detect Extensively Drug-Resistant Tuberculosis. DMID Protocol Number : 09-0099. Sponsored by : National Institute of Allergy and Infectious Diseases (NIAID). DMID Funding Mechanism : Cooperative Research Partnerships for Biodefense and Emerging Diseases. Principal Investigator : Antonino Catanzaro; University of California, San Diego.
- TB PAN-NET : Pan-European network for study and clinical management of drug resistant tuberculosis. "Clinical research drug resistant TB in Europe" TBPANNET is a European collaboration for research on MDR/XDR-TB, which has the task to establish a European data base on MDR-TB. Research Centre Borstel and TBNET are the administrative and implementing partners in this project.
- Project : "Evaluation of the β Version of the GenoType[®] Mtbresdir Test with Nalc-Decontaminated Clinical Specimens". Study coordinator : Dr. Vera Allerheiligen, Hain Lifescience GmbH. Function of the β version of the GenoType[®] MTBResDir test . The β version of the „GenoType[®] MTBResDir” test is a molecular-genetic test system for the identification of the Mycobacterium tuberculosis complex (MTBC) and its resistance against rifampicin and/ or isoniazid from culture samples and specimens.

PAEDIATRIC CARDIOLOGY LABORATORY

THE CARDIOLOGICAL INSTITUTE

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The staff of the laboratory is made up of 6 research workers. The chief of the laboratory has more than 20 years of scientific service in paediatric cardiology.

Among the recent projects - there is an ongoing investigation of the clinical and paraclinical peculiarities of the arterial hypertension of adolescents suffering from obesity or those that are undernourished. The study revealed risk factors, dysfunctions of the lipidic, glycidic and hormonal metabolism of these patients.

In 2011 we started a project with purpose of determining the TNR, leptina, adiponectina, and polymorphism of ECA, AGTR, NOS of children with hypertension, those that are obese and overweight.

KEYWORDS ON CORE COMPETENCIES

Hypertension; obesity; metabolic syndrome; polymorphism gene; oxidative stress.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

More than 20 years of scientific activity in paediatric cardiology. Participation in national and international scientific conferences in Russia, Romania, Ukraine, Germany, France, Switzerland, including reports, articles and presentations. Research workers of the laboratory are members of the European Association of Cardiologists and the Association of Paediatrists of CIS.

INTERNATIONAL COOPERATION EXPERIENCE

The staff of the Laboratory of Paediatric Cardiology collaborates actively with colleagues from Russia, Romania and Ukraine, through personnel exchange schemes and through sharing experience on new methods of diagnostics and treatment of arterial hypertension of children and adolescents.

Additionally, the majority of members participate in scientific conferences at national and international levels.

THE LABORATORY OF HUMAN REPRODUCTION AND IMMUNOCHEMICAL INVESTIGATIONS

NATIONAL CENTRE OF REPRODUCTIVE HEALTH AND MEDICAL GENETICS

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory has determined significant immune disorders in the peritoneal fluid of women with tubo-peritoneal sterility : T-cellular-immunodeficiency, disorder of the psychological immunoregulatory balance; B-lymphocytosis; decreases of phagocytary activity of neutrophiles (segmented cells); presence and increasing of C-reactive proteins's concentration decreasing the number of macrophages and macrophagic activity and interleukines IL-1 β and IL-6.

The number of peritoneal macrophages corresponds to macrophagic activity. The Laboratory developed algorithm to optimise the diagnostic and patients with tubal infertility, assisted reproduction program includes.

KEYWORDS ON CORE COMPETENCIES

Infertility; reproduction; FIV; obstetric; gynaecology.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

IVF treatment; diagnostic ultrasound.

INTERNATIONAL COOPERATION EXPERIENCE

The Laboratory is implementing a bilateral Moldovan-Romanian project "Diagnostics of molecular and proteomic implications in microbial cause of infertility - acronym : infertmic (2010-2012)".

Expected results at the end of the project : • elaboration of standards and protocols to guide basic and applied research of tubo-peritoneal infertility. • 2 articles will be published in journals indexed in international databases.

NATIONAL SCIENTIFIC & PRACTICAL CENTRE FOR EMERGENCY MEDICINE

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The centre is a university hospital with 9 Surgery Departments, 2 Courses and 3 Scientific Laboratories. Modern equipment used : CT, US, endoscopy and minimally invasive surgery, biochemical analysers. Main scientific directions : organization of specialized services for multiple and associated trauma on the pre-hospital and hospital stage; elaboration of “damage control” principles for abdominal traumas and acute abdominal surgical pathologies; elaboration of diagnostic and management methods for acute abdominal pathologies using new technologies. Personnel : 56 employees with scientific degrees : 2 academicians, 12 professors, Dr. h. med. sci. -13, Ph.D. - 43.

KEYWORDS ON CORE COMPETENCIES

Surgical pathologies; mesenteric; mini-invasive; trauma, hospital.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The Centre developed an original mini-invasive method of fixating pelvic fractures; an experimental method of albumin glutaraldehyde sealing for haemostasis in solid organ injuries; a new classification of oesophageal variceal bleeding activity. The “damage control” principle in acute mesenteric ischemia was elaborated and applied.

INTERNATIONAL COOPERATION EXPERIENCE

Memberships : International Society of Surgery; International Union of Angiology; International Academy of Pathology; European Society of Pathology; Balkan Medical Union;

Editorial Board : Romanian Journal of Morphology and Embryology; Archives of the Balkan Medical Union;

Partnerships -Institute of Surgery and Transplantology “A.A.Shalimov”, Kiev, Ukraine;

Collaborative Project (SCOPES) : “The evaluation of patients with epilepsy before surgery”; University Hospital, Geneva, Switzerland;

International Projects :

- “The treatment of epilepsy”; Royal College of Surgeons, England
- “Transcranial magnetic stimulation”; University Hospital Schleswig-Holstein, Kiel, Germany;
- “Cerebrovascular Diseases”; Department of Neurology, State Medical University, Russia, Moscow.
- “Cerebrovascular Diseases”; Cerebrovascular Disease Institute, Russia.

PUBLIC MEDICAL & SANITARY RESEARCH INSTITUTE FOR MOTHER AND CHILD HEALTH CARE

NATIONAL SCIENTIFIC & PRACTICAL CENTRE FOR EMERGENCY MEDICINE

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

PMSI RIMCHC is a leading institution in Moldova in the sphere of obstetrics, gynaecology, neonatology and paediatrics (somatic and surgical) domains. It has a scientific-curative profile, executes state base projects and implements modern technologies in medicine; it is a centre that cumulates and puts in practice the findings of national and foreign researches.

15 scientific staff members activate in the following topics : “Identifying the major risks of perinatal mortality, and neurological disabilities of children”; “Prevention and early preventive treatment of pregnant women with high risks of CNS pathologies”.

KEYWORDS ON CORE COMPETENCIES

Pregnancy; electromagnetic waves; Terahertz waves; nitric oxide; psychosomatics.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- The use of electromagnetic waves in obstetrics;
- Gynaecological and paediatric practice for diagnosis and treatment.

INTERNATIONAL COOPERATION EXPERIENCE

The Institution works in close collaboration with important international organizations - WHO, UNICEF, UNFPA, SOROS Foundation; university centres and governmental structures from Japan, France, Sweden, USA, Canada, Romania, Greece, Italy, Norway, Poland and other countries.

SCIENTIFIC LABORATORY OF STROKE AND NEUROREHABILITATION

THE INSTITUTE OF NEUROLOGY AND NEUROSURGERY

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Scientific Laboratory of Stroke and Neurorehabilitation(SLSNR) has the main aims to consult, explore, treat, and neuro-rehabilitate patients with stroke and post-stroke complications. The staff of SLSNR consists of : 5 neurologist-researchers, 2 PhDs, trained in the above mentioned topics.

KEYWORDS ON CORE COMPETENCIES

Stroke; ischemic cerebral area; cerebral hemorrhage; post-stroke disorders; rehabilitation in neurology.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Accredited in research. Provides CT, RMN, angio-imaging, EMG, EEG. Research work is focused on new concept of stupefaction phenomena of cerebral tissue. Postural disorders in stroke patients, rehabilitation programs based on stabilographic biofeedback.

INTERNATIONAL COOPERATION EXPERIENCE

The Laboratory participated in international research project funded by INTAS, TACIS, STCU, TEMPUS, COST, EUREKA, NATO, and other RTD programmes.

SCIENTIFIC LABORATORY OF NEUROSURGERY

THE INSTITUTE OF NEUROLOGY AND NEUROSURGERY

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory has the main aim to :

- Diagnose and perform neurosurgery treatment as well as scientific studies of patients with stroke, diverse cerebral and spinal tumours;
- Perform new neurointerventions and new guidance-methods .

KEYWORDS ON CORE COMPETENCIES

Headache disorders; autonomic troubles; back pain neuropathies; brain ischemia; stroke; neurological rehabilitation.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Accredited in research. Provides CT, MRI, angio-imaging. Destined to investigations and neurosurgery treatment of patients with stroke, with diverse cerebral and spinal tumours.

INTERNATIONAL COOPERATION EXPERIENCE

Involved in international scientific cooperation with similar research institutions from

University Clinic, Essen, Germany;

Technical University, Dresden, Germany;

Awaza Clinic, Matsumoto, Japan, Matsumoto;

Department of Neurology, Emory University, Georgia, Atlanta, USA.

SCIENTIFIC LABORATORY OF SPINAL COLUMN NEUROLOGY

THE INSTITUTE OF NEUROLOGY AND NEUROSURGERY

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Scientific Laboratory of Spinal Column Neurology has the aim to perform diagnostics and treatment, inclusive scientific studies of the patients with spinal column disorders, back pain neuropathies. The staff of SLSCN includes : 6 neurologists-researches and 2 PhD trained on the above mentioned topics.

KEYWORDS ON CORE COMPETENCIES

Back pain, neuropathy, EMG, neuroimaging, spinal column troubles, epidural anaesthesia.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Certified by Activity Paper. Clinical evaluations is made by means of complex structured examinations. Performing explorations by CT, MRI, EMG with X-ray control etc.

INTERNATIONAL COOPERATION EXPERIENCE

Technical University, Department of Neurology, Dresden, Germany;

Emory University, Department of Neurology, Atlanta-Georgia, USA.

THE LABORATORY OF HEPATO-PANCREATO-BILIARY SURGERY

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Scientific personnel 10 : 1) Gheorghe Ghidirim, MD, PhD, Chief, Academician, Professor, 2) Igor Mishin, MD, PhD, Senior Research Surgeon (Coordinator), 3) Vladimir Kusturov, MD, PhD, Senior Research Trauma Surgeon, 4) Ion Gagauz, MD, PhD, Senior Research Surgeon, 5) Eugen Beschieru, MD, PhD, Senior Research Surgeon, 6) Irina Paladii, Research Surgeon, 7) Vadim Gheorghitsa, Research Surgeon, 8) Aliona Vizitiu, Fellow Researcher, 9) Radu Gurgish, Fellow Researcher, 10) Gheorghe Zastavniysky, Fellow Researcher.

Equipment : Ultrasound dissector SonoSurg-G2 Set (Olympus, Japan), Argon plasma coagulation (Tekno, Germany). During 2006-2010 - 214 scientific papers were published (inc. 15 in Journals with Impact Factor) and 5 inventions were issued.

KEYWORDS ON CORE COMPETENCIES

acute and chronic pancreatitis; portal hypertension; hepato-pancreato-biliary surgery; surgical oncology; trauma surgery.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Elaboration and perfection of treatment methods in surgery and trauma of hepato-pancreato-biliary system.

INTERNATIONAL COOPERATION EXPERIENCE

Memberships :

- International Surgical Society : Ghidirim Gh. - Romanian Surgical Society (Hon.),
- Romanian Society of Laparoscopic Surgery (Hon.),
- European Society of Endoscopic Surgery.
- Mishin I. : International Society of Surgery (ISS/SIC), Zastavniysky Gh. - ISS/SIC.

Editorial Boards :

- Ghidirim Gh. : „Chirurgia” Bucharest, Romania, „Jurnal de Chirurgie” Iasi, Romania.
- Mishin I.- World Journal of Gastroenterology.

Awards (Travel Scholar) :

- Mishin I., MD, PhD- International Society of Surgery(1997), Japan Surgical Society(2001), Japan Society of Gastrointestinal Endoscopy(2002).
- Zastavniysky Gh.- Japan Surgical Society(2009), ISS/SIC(2009), European Society of Trauma and Emergency Surgery (2009).

Cooperation - National Institute of Surgery and Transplantation "A.Shalimov" (Kiev, Ukraina)

THE FACULTY OF NATURAL SCIENCES AND AGROECOLOGY

STATE UNIVERSITY "ALECU RUSSO"

Organization activity type : **HU**
FP7 theme : **ENV**
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BRIEF DESCRIPTION OF THE ORGANIZATION

The Faculty of Natural Sciences and Agroecology is engaged in educational and research activities. The Faculty of Agroecology is directed toward breeding of field crops and developing sustainable farming systems. The number of staff at the faculty is 20 people, from which 7 are Doctors of Agricultural Sciences. Results obtained in long-term field experiments with different crop rotations, monoculture, systems of soil tillage and fertilization - conducted together with the Research Institute of Field Crops "Selectia"- allowed to find practical solutions for the transition to a sustainable agriculture. More than 150 students submitted their dissertations using the experimental data obtained in our research.

KEYWORDS ON CORE COMPETENCIES

agroecology; sustainable farming systems; soil organic matter; agrochemistry; agropedology

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Our researches are connected with plant breeding programmes for different field crops, sustainable farming systems which include : crop rotation, systems of fertilization and soil tillage, irrigation, weed control.

INTERNATIONAL COOPERATION EXPERIENCE

University of Udine, Udine, Italy;
State University of Agriculture and Veterinary Sciences, Iasi, Romania;
State University "Alecu Russo", Balti, Moldova;
The Institute of Ecology, Ludwig-Maximilians-Universität (LMU), Munchen, Germany;
The Ohio State University, Columbus, Ohio, USA

SCIENTIFIC LABORATORY OF ENVIRONMENTAL HEALTH

NATIONAL CENTRE FOR PUBLIC HEALTH

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Scientific Laboratory of Environmental Health is accredited to carry out scientific and practical research in the National Centre for Public Health in the sphere of hygiene.

There are 10 people working in the laboratory (1PhD, 4 scientists, 3 superior laboratory assistants, and 2 laboratory assistants).

Over the past five years the laboratory has conducted 5 institutional projects at the state and economic agents' request. The research aim consisted in evaluating the population's health in relation to the environmental (water quality, air, nutrition) and social factors; and risk assessment of the influence of environmental factors on population's health and especially on children.

KEYWORDS ON CORE COMPETENCIES

Hygiene; environmental health; risk; prevention.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The laboratory determines the general and overall indicators in drinkable and surface water, as well as the level of pollution in waste waters, air, soil and biological environments.

The laboratory uses the following research methods : hygienic, epidemiological, sanitary and chemical (photocolorimetry, titration, ionometry, spectrophotometric analysis, gravimetry), statistical (determination of linear correlation coefficient, regression, risk determination), and anthropometry.

THE LABORATORY OF RADIATIONS HYGIENE

THE NATIONAL CENTRE FOR PUBLIC HEALTH

Organization activity type : **RES**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The strategic direction of the laboratory : establishing the medico-biological effects of ionizing radiations at various biological levels (population, individual, cell, molecule, DNA). Number of staff : 8.

Research achievements : • quantification and mapping of the natural and technogenic radionuclides in the environment during the last 30 years (including radon); • establishing medico-biological effects of ionizing radiations; • health estimation and control of radiation therapy and radiation diagnostic investigation.

KEYWORDS ON CORE COMPETENCIES

Radiobiology; radioprotection; medico-biological effects; radionuclide; cancer morbidity

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Researching population and professional exposure doses from natural and medical radiations. Elaboration of norms and normative acts based on scientific results for the radiological protection of the population, patients and professionally exposed individuals. Spectrometry investigations using the "PROGRESS BG" spectrometer and radonometry using the "Alpha Guard System", dosimetric passive type Radosys and CR39 detectors; The study of DNA polymorphism and cytogenetic investigations of individuals exposed to ionizing radiations.

INTERNATIONAL COOPERATION EXPERIENCE

Frederic Joliot Curie National Research Institute for Radiobiology and Radiohygiene, Budapest, Hungary;

Nuclear Research Institute, Dubna, The Russian Federation;

Institute of Public Health, Bucharest, Timisoara, Iasi, Romania;

International Atomic Energy Agency (IAEA), Vienna, Austria;

SARAD, Dresden, Germany

Projects :

2005-2008 : Monitoring of Natural Hazards (funded by IAEA)

2006-2008 : Evaluation of risk factors associated with ionizing radiation (National)

2008-2010 : Evaluation of Natural and Mutant Genetic Diversity Using Nuclear and Molecular Techniques, funded by IAEA.

CENTRE OF HEADACHE AND AUTONOMIC DISORDERS

THE INSTITUTE OF NEUROLOGY AND NEUROSURGERY

Organization activity type : **RES**

FP7 theme : **HEALTH**

Contact person : Dr. Stela Odobescu

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Centre of Headache and Autonomic Disorders (CHAD) performs investigations, treatment and scientific studies of patients with headache and autonomic disorders. It has : out-patients and in-patients departments. CHAD staff : 8 neurologists-researchers and 4 PhDs, trained in the above-mentioned topics.

KEYWORDS ON CORE COMPETENCIES

Headache disorders; autonomic troubles; mood disorders; sleep disorders; syncope.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Certified by an Activity Paper. Clinical evaluation is performed by means of complex structured questionnaires. Performing neuro-imaging investigations by CT and RMN. Non-pharmacological pain relieve achieved by Transcranial Electrical Stimulation.

INTERNATIONAL COOPERATION EXPERIENCE

Involved in international scientific cooperation with :

Centre CephaLee Urgences, Paris, France;

Groupe Hospitaliere Saint Augustin, Malestroit, France;

University Clinic, Essen, Germany

NATIONAL CENTRE OF REPRODUCTIVE HEALTH AND MEDICAL GENETICS

Organization activity type : **RES**

FP7 theme : **HEALTH**

Contact person : Dr. Victoria Sacara

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Centre was founded in 2003. It includes : The Scientific Department of Reproduction and Medical Genetics specialized in molecular-genetic and immunological investigations; the Department of Reproductive Health with the Laboratory for Assisted Reproduction; The Department of Clinical Genetics with the Cytology Laboratory; and the management unit. There are 68 collaborators in the Centre, including 19 researchers, 13 of them having scientific degrees (dr. hab. med, Prof. V.Mosin; corresponding member of ASM, Prof. St. Groppa; and 11 PhDs).

KEYWORDS ON CORE COMPETENCIES

Hereditary diseases; population genetics; complex diseases; DNA; mutations.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- PCR, SSCP, RFLP, Long range PCR, Heteroduplex analysis, MTT test, ELISA.
- The elaboration of scientific technologies for maintaining and improvement of reproductive health and prevention of hereditary pathologies in Moldova;
- The improvement of National Register of Congenital Diseases in accordance with the EUROCAT Register for the evaluation of mutagenic and teratogenic factors in the Moldovan population;
- Implementation of new methods for prenatal, cytogenetic and molecular-genetic diagnostics of hereditary and congenital pathologies;

INTERNATIONAL COOPERATION EXPERIENCE

Main international projects implemented :

- Project "Functional studies of copper transporter ATP7B in hepato-cytes and neurons for targeted therapy of Wilson's disease" (Germany - Westfälische Wilhelms-Universität Münster);
- Project "Genes and environment determining childhood asthma in Moldova and Germany (Germany Medizinische Hochschule Hannover);
- Project "Developing methods and psychomotor improvement of patients with Down disease and the psychological status of the family" (Romania);
- Project : "Man in space disease : research methods in medical humanities", Project : "Bioethical fundamentals of biological and genetic medical research" (Russian Federation);
- Project "Bioethical fundamentals of biological and genetic medical research" (Republic of Belarus).

THERAPEUTIC DENTISTRY DEPARTMENT

STATE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

Organization activity type : **HE**

FP7 theme : **HEALTH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Scientific personnel : 23 doctors. Research is carried out in scientific fields as implantology, periodontology, diseases of oral mucosa fields. (96 scientific works carried).

KEYWORDS ON CORE COMPETENCIES

Implant, caries, endodontics, parodontitis, lichenruber.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Elaboration of new types of surface for the dental implants.

THE DEPARTMENT OF SOCIAL-ECONOMIC STATISTICS

THE INSTITUTE OF ECONOMY FINANCES AND STATISTICS, THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Economy, Finance and Statistics (IEFS) is an organization from the science and innovation field, created as a result of merging the Institute of Economic Research of the Academy of Science of Moldova and the National Institute of Economy and Information of the Ministry of Economy and Trade.

Within IEFS there are five working services and 6 departments : “Policies and mechanisms of economic growth”; “Agro-food economics and rural development”; “ Financial and monetary policies”; “Social-economic statistics”; “Policies of social development”; “Analytical and informational studies”.

At the moment, the Institute employs 105 persons.

KEYWORDS ON CORE COMPETENCIES

Scientific research; information resource; national statistical system; statistical data; modernization.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Recommendations for improving the statistical information system data in Moldova;
- Identification, elaboration and description of statistical indicators of efficiency in the field of education;
- Elaboration of the system of indicators in science, innovation and the development of methodology according to international standards;
- Identification of the structure of the informational statistical system of Moldova.

INTERNATIONAL COOPERATION EXPERIENCE

United Nations Development Fund for Women (UNIFEM) :

- Participation in the elaboration of the National Programme on ensuring gender equality during 2010-2015 .
- Participation in the project on study and the elaboration the sub-regional UNIFEM Programme on gender-sensitive budgeting in Moldova.

GROUP OF SME & ENTREPRENEURSHIP RESEARCH

THE INSTITUTE OF ECONOMY, FINANCE AND STATISTICS

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The SMEs & Entrepreneurship's Research Group is part of the department of Policies and Mechanisms of Economic Growth of the Institute of Economy, Finance and Statistics (IEFS).

The 5 researchers involved in this group have achieved the following results within scientific projects developed during the last 5 years : recommendations for policy and methodical materials for creation and development of SMEs clusters in Moldova; methodology for analysis and estimation of the business environment and investment; mechanisms for SMEs support, exporting own production and services; monitoring of situation in SMEs sector and suggestions for policy makers.

KEYWORDS ON CORE COMPETENCIES

SME; business; entrepreneurship; SMEs policy regulation; partnership of business and public bodies

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Economic policies;
- SMEs development;
- Foresight;
- Risk management

INTERNATIONAL COOPERATION EXPERIENCE

Members of the group participated in 6 international projects on SMEs, among them :

- BSEC-KAS-ERENET. Strengthening the private SME sector and contribution to economic growth based on sustainable entrepreneurship in the economies of the Organization of the Black Sea Economic Cooperation (2010-2011);
- INTAS 04-79-6991. Cross-border Cooperation and Partnership in selected NIS countries and the Consequences of EU- Enlargement : Fostering Entrepreneurship in the Ukraine, Belarus and Moldova (2005-2007).

During the international projects' implementation, members of the group have cooperated with partners from both EU and CIS countries.

THE DEPARTMENT OF ANALYSIS AND FORECASTING

THE INSTITUTE OF ECONOMY FINANCE AND STATISTICS, THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Economy, Finance and Statistics (IEFS) is an organization from the science and innovation field. The “Analysis and Forecasting” department is a structure within the IEFS that was created in coordination with the Ministry of Economy and Trade in 2007. Within the department there are 15 scientific researchers.

The main goal of “Analysis and Forecasting” department is to facilitate the policy-making, providing analytical consulting services to public institutions.

KEYWORDS ON CORE COMPETENCIES

Economic policies, macroeconomics, forecasting, competitiveness, external trade

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Functionally, section’s activity is divided in 4 research directions :

1. “Macroeconomic Analysis” - focus on evaluating and forecasting macroeconomic evolutions and identifying solutions to mitigate the major imbalances that affect the national economy;
2. “External trade and Competitiveness” aims at identifying the ways to increase inland products’ competitiveness and to consolidate the external trade balance;
3. “Structural Policy” focuses on enhancing sectorial economic policies;
4. Economic modelling and forecasting of economic indicators, as well as assessment and evaluation of public policies;

INTERNATIONAL COOPERATION EXPERIENCE

The Department is also involved in international projects. It is responsible for updating the database concerning national achievements in the science and business areas, which is included in the information resources of the International Centre for Scientific and Technical Information from Moscow, Russia.

A new project started with the Ukrainian Institute for Scientific, Technical and Economic Information in 2010. The project’s main objective is to create an informational channel between Republic of Moldova and Ukraine on the main scientific achievements.

THE LABORATORY OF RESEARCH ON COMPARATIVE LAW, FACULTY OF LAW,

ALECU RUSSO STATE UNIVERSITY

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory was founded in 2006 by a team of researchers from the Faculty of Law, which performs research in the field of law, contributing to the improvement of the national legislation. The Laboratory activities are carried by 5 people, of which 3 are Doctors of Science.

As a result of research conducted in the Laboratory, there have been 3 monographs published, over 20 scientific papers, presentations at national and international scientific events, some of them organized at the Faculty of Law.

KEYWORDS ON CORE COMPETENCIES

Private law; comparative law; legislation; project; cooperation.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The Laboratory carries research in the fields of

- Civil Law;
- Family Law;
- Labour Law;
- Commercial Law;
- International Trade.

INTERNATIONAL COOPERATION EXPERIENCE

Collaboration with the University of Bucharest, Cluj-Napoca, Targu-Mures, Sibiu, Iasi (Romania), Moscow (Russia) .

THE DEPARTMENT OF POLICIES OF SOCIAL DEVELOPMENT

THE INSTITUTE OF ECONOMY, FINANCE AND STATISTICS OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Economy, Finance and Statistics (IEFS) is an organization from the science and innovation field, created as a result of merging the Institute of Economic Research of the Academy of Science of Moldova and the National Institute of Economy and Information of the Ministry of Economy and Trade.

Within IEFS there are five working services and 6 departments : “Policies and mechanisms of economic growth”; “Agro-food economics and rural development”; “Financial and monetary policies”; “Social-economic statistics”; “Policies of social development”; “Analytical and informational studies”. At the moment, the Institute employs 105 persons.

KEYWORDS ON CORE COMPETENCIES

Poverty; minimum social standards; living conditions; social exclusions; social assistance

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Methodological approaches to the study of processes of social exclusion and social cohesion;
- The quality of life and social security problems research;
- Improving the functioning of the social assistance system by increasing its targeting;
- Formation of the state system of minimum social standards, which correspond to EU requirements;
- Territorial aspects of social development in the context of cross-border cooperation between Moldova and other countries;
- Assessment of the impact of social benefits on poverty reduction of households in Moldova.

INTERNATIONAL COOPERATION EXPERIENCE

UNDP Moldova Project :

- “National Human Development Report” - 1997, 1998, 1999, 2000; Dr. Rojco A. as local consultant
 - “Capacity Building for Poverty Monitoring and Programmed Evaluation” - 2001-2004; Dr. Rojco A. as local consultant
 - “Approaches of the social exclusions in Moldova”, 2009; Ph. Rojco A. as local consultant
- Within USAID : “Unemployment in Moldova” - 2001; Dr. Rojco A. as local consultant;
- Within LIESAP/USAID : “Evaluation of Social Assistance to Population through Nominative Targeted Compensations Programme” - 2002; Dr. Rojco A. as local consultant;
- Within DFID (Department for International Development, ISAS) : “Measurement of an inequality and well-being of the population” - 2006; Dr. Rojco A. as local consultant.

APDI-HUMANITAS

Organization activity type : **NGO**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

APDI Humanitas Moldova - the association of specialists and parents that have in their care intellectually disabled individuals - was founded in 1991. It is recognized by the International League of Associations for Mental Disabled Persons.

A member of European Integration programs, APDI Humanitas has developed many activities regarding the promotion at national levels of the World Program Principles of actions regarding disabled persons (1982), standard rules regarding the equity of disabled people (1993).

KEYWORDS ON CORE COMPETENCIES

Inclusive pedagogy; education policy; social survey; strategy; Curriculum

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Social inclusion of people with special needs in a post-totalitarian society;
- Models of social integration/inclusion;
- Survey on socio-professional integration of youth with special needs;
- Elaboration of an educational policy strategy aimed at the integration of people with special needs;
- Elaboration of scientific and didactic materials concerning people with special needs, for the higher education of didactic staff.

INTERNATIONAL COOPERATION EXPERIENCE

APDI Humanitas implemented projects at local and international level :

- 2010- MOLDINCLUD - Life Long Learning in the field of Inclusive Education.
- 2007-2009 : Complex recuperation centre for children with multiple disabilities - Foundation CORDAID and JANIVO, Holland;
- 2008 -Tempus ETF-JP-00471-2008 „Professionnalisation des enseignements en travail social”, Partners : State University of Moldova; University A.I. Cuza, Iasi, Romania; Universities from Italy, Spain, Greece, Hungary, Bulgaria, Great Britain;
- 2005-2006 : Support for the parents (SHIA, FUB (Sweden), Moldova and Romania;
- 2005-2006 : The prevention of social exclusion of disabled children (SOROS-Moldova) ;
- 2003-2004 : Complex services (PPMS) for disabled people that are in care of the parents (SOROS-Moldova) .

SOCIAL-ECONOMIC STATISTICS DEPARTMENT

THE INSTITUTE OF THE ECONOMY, FINANCES AND STATISTICS OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Economy, Finance and Statistics (IEFS) is an organization from the science and innovation field, created as a result of merging the Institute of Economic Research of the Academy of Science of Moldova and the National Institute of Economy and Information of the Ministry of Economy and Trade. Within IEFS there are five working services and 6 departments : “Policies and mechanisms of economic growth”; “Agro-food economics and rural development”; “Financial and monetary policies”; “Social-economic statistics”; “Policies of social development”; “Analytical and informational studies”. At the moment, the Institute employs 105 persons.

KEYWORDS ON CORE COMPETENCIES

Demography; demographic security; aging; labour market; employment.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- The National strategy about the politics of the employment of the labour force during the years 2007 - 2015;
- The Strategy model of human resources development;
- The set of the indices for monitoring and the evaluation of demographic security was elaborated and scientifically argued, included into the National Strategy of Demographic Security in Moldova;
- The mechanism of determination of allowable values for key demographic security indicators on the basis of modelling the existing indicators;
- The six linear multifactorial models of the key demographic security indicators.
- The type-model of the passport, the integral territorial index’s model of the demographic security .

INTERNATIONAL COOPERATION EXPERIENCE

- United Nations Development Fund for Women (UNIFEM);
- Participation in the elaboration of the National Programme on Ensuring Gender Equality during 2010-2015 (Government Decision of the Republic of Moldova);
- Participation in the sub-regional UNIFEM Programme on Gender-sensitive budgeting in Moldova.

THE INSTITUTE OF EUROPEAN INTEGRATION AND POLITICAL SCIENCE

ACADEMY OF SCIENCES OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The main topics of research that is being carried out concerns political, socioeconomic and media issues :
i.e. Social-demographic aspects such as - the dynamics of population structure and population projections; natality and family formation; long-term mortality trends by cause of death; migration and various social problems.

KEYWORDS ON CORE COMPETENCIES

Demographic transition; migration; social structure; human capital; European integration; state policies; long-term mortality trends by cause; media insurance; social mobility.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The researchers of the Institute are members of the National Commission for Population and Development within the Government of Moldova; they are involved in the activities of the UN Population Fund in Moldova; participated in the elaboration of the Green Book on Population in Moldova, population projections and collaborated in projects with the World Bank, USAID and FISM.

The researchers are experts in projects on Election Process Insurance, Information organized by the Association of Election Officials from Europe.

INTERNATIONAL COOPERATION EXPERIENCE

Bilateral projects with scientific centres from Italy, Spain, Romania, Russia and Ukraine were developed:

- “The main challenges for demographic security in Moldova and Belarus : convergence and divergence” - **Institute of Economics, Academy of Sciences, Belarus** (2010-2011);
- “Determinant factors of nuptiality and natality in Ukraine and Moldova” - **Institute of Demography and Social Investigations, Academy of Sciences of Ukraine** (2010-2011);
- “Long-term mortality trends by cause in Moldova since 1965”. - **Institute National d`Etudes Demographiques, Paris** (2006);
- Optimization of transformation processes in Moldova (post-Soviet period) **Humanitarian Scientific Fund, Russian Federation** (2006-2008);
- Advanced technologies for sustainable development in the structure of innovative schemes in the Republic of Belarus and Moldova : consistency problem of noospherical values. **Fundamental Research Fund, Belarus** (2008-2009);
- Functionality and impact of NGOs in Ukraine and Moldova on the factors of decision. **Ministry of Education and Science, Ukraine** (2010).

TIRASPOL STATE UNIVERSITY

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Tiraspol State University (TSU) is the oldest higher education institution in Moldova. Since 1930, the university has been carrying on a tradition of excellence and innovation in the fields of education and research. Once the Bologna Process was put into practice, TSU adopted the two cycles of higher education qualification offering 13 Bachelor and 10 Master specializations in Sciences and Humanities. Post-graduate education is accomplished via 11 Doctoral and Post-doctoral specialties. With about 4500 students and 220 academic staff the university encourages competence-based education and offers the opportunity of joint academic research or strategy initiatives.

KEYWORDS ON CORE COMPETENCIES

Life long learning; curriculum elaboration and reform; education policy; educational management; early age and preschool education

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

• Student-centered Psycho-pedagogical curriculum; • Competence-based education; • Higher education quality; • National Framework of Qualifications; • Guidelines for Early Age and Preschool Education.

INTERNATIONAL COOPERATION EXPERIENCE

- Tempus Project : “Quality assurance in implementing Bologna Objectives”, 2006-2008;
- Tempus Project : “Transferring the EU Assessment to Moldova’s Universities”;
- Tempus Project : “Developing standards for postgraduate education in universities in Moldova. Profile Psycho-pedagogy. Engineering Profile”;
- Tempus Project “WETEN - Western-Eastern Teacher Education Network”, 2009-2011.

TRAINING AND SOCIAL RESEARCH INSTITUTE

THE FREE INTERNATIONAL UNIVERSITY OF MOLDOVA

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The institute is a scientific subdivision within the Faculty of Psychology and Social Assistance. It was founded in 2005 on the basis of the University Centre of Psychological Advice. The profile of research consists in investigations of the mechanisms and modalities of psychosocial and media impact on mass consciousness. The accreditation was provided by the National Committee of Academic Accreditation in 2008.

Staff : 19, Dr.h. - 1, PhD - 4. During the last 5 years over 100 publications have been issued, including about 30 monographs, brochures and books.

KEYWORDS ON CORE COMPETENCIES

Research; training; social; psychology; sociology.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Surveys on the problems of individual and human groups within the context of social changes: social adaptability, change of mentality, counteraction of negative phenomena, leadership etc.

Training in methods of psychological and social assistance, training of specialists in Psychology, Sociology and Social Assistance.

INTERNATIONAL COOPERATION EXPERIENCE

- 2008-2009: "Psychological and social assistance to children from disadvantaged families" in partnership with **Terre des Hommes, Lausanne**, Switzerland
- Psycho-sociological research on problems of the sexual minority" in partnership with **GenderDoc, Moldova and Cordaid**, Holland;
- 2008-2009 : "Research of the family abuse phenomenon and the public opinion on this problem" with **UNFPA**;
- 2009 : Development and validation of analytical programs for mastership studies "Specialised assistance in cases of family abuse" with **UNFPA**;
- 2009 : Training "Family Abuse - Multidisciplinary Approach, Protection and Rehabilitation of Victims" with **UNFPA**;
- 2009-2010 : "Prevention of conflicts from the perspective of social science", **IFCS University of Hamburg**.

DEPARTMENT OF ECONOMICS, STATISTICS AND ANALYSIS

THE STATE AGRARIAN UNIVERSITY FROM MOLDOVA

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Department of Economics, Statistics and Analysis is part of the Faculty of Accounting within the State Agrarian University of Moldova. The department consists of 12 persons. For the last 5 years the members of department have published over 60 publications : scientific papers, methodical guides, and articles presented in international conferences.

KEYWORDS ON CORE COMPETENCIES

Efficiency; land market; return of assets; labour conditions; debts.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Financial analysis of farms and processing companies. The identification of opportunities, strengths and weaknesses of economic efficiency in rural areas. Statistical processing of databases including scientific methods.

INTERNATIONAL COOPERATION EXPERIENCE

Scientific papers:

- BALTAG, G., Priority directions of the problems of land market functioning in Moldova: perspectives and tendencies, In : Scientific Papers "Management, Economic, Engineering in Agriculture and Rural Development" (MEEARD);
- BALTAG, G. Analysis of the subvention system in the agriculture field of Moldova. In : Scientific Papers (MEEARD);
- BURCIU, C. Bulgac E. The analysis of productive potential of land fund in agricultural unities of Moldova. In Scientific Papers (MEEARD);
- COJOCARU, V. Analysis of the economical means efficiency from agricultural enterprises patrimony. In Scientific Papers (MEEARD);
- IGNAT, V. Analysis of money resources flow in "Zăvoiu Mare", LTD. CO. In Scientific Papers (MEEARD);
- PRISĂCARU, V. The impact of motivational system on the quality of the labour resources management in the agriculture of Moldova. In Scientific Papers (MEEARD);
- PRISĂCARU, V.; LITVIN, A. Quantitative and qualitative indices of the human resources management from agrarian sector of Moldova. In Scientific Papers (MEEARD).

THE LABORATORY OF SCIENTIFIC RESEARCH IN TRADE AND CONSUMER COOPERATION

TRADE COOPERATIVE UNIVERSITY OF MOLDOVA

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Trade Cooperative University of Moldova is an institution of higher education and scientific research. The University takes part in the Bologna Declaration program and other international conventions in the domain of higher education.

The Laboratory of scientific research makes complex research in the domains of consumer cooperation and trade : public catering and acquisitions, manufacturing, logistics, promotion and distribution of the consuming goods, goods' expertise and consumers' protection.

The teaching staff includes 86 persons, of which 44 with scientific degrees. Around 2000 persons (students, masters and PhD students) are involved in different projects and researches.

KEYWORDS ON CORE COMPETENCIES

Economy; trade; consumer cooperation; goods' expertise; consumers' protection.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Expertise of the projects in the domain of regulating trade activities, participating in elaboration of strategies of developing the trade of Moldova;
- Consulting in starting and developing business in trade;
- Continuous education of employees from trade and consumer cooperation;
- Elaborating educational programs for consumers;
- New methods of goods' expertise having as an aim consumer protection.

INTERNATIONAL COOPERATION EXPERIENCE

- 2006-2007 : TEMPUS - Developing standards for post- graduate education at Moldovan universities;
- 2009 : 2012 : TEMPUS - Developpement de partenariats avec les entreprises en Moldavie;
- 2005 : SOROS Foundation Moldova, - Implementation of an institutional system of quality assurance in higher education of Moldova.

THE NATIONAL MUSEUM OF ETHNOGRAPHY AND NATURAL HISTORY OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The institution was created in 1889. It has 22 researchers, of which 12 are Doctors of Science. The Museum administers about 150.000 museum pieces. The main scientific contributions are reflected in : "The Scientific Bulletin. Review of Ethnography", "Natural Science" and "Museology".

During the last 5 years the institution has edited 12 monographs, 5 text-books, as well as 145 articles in national reviews and published 47 articles in international publications.

KEYWORDS ON CORE COMPETENCIES

Mobile cultural heritage; intangible cultural heritage; traditional culture; natural heritage; preserve.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Scientific research on the conceptualized new direction Ethno-ecological Researches in Republic of Moldova;
- A number monasteries and unknown stone monasteries were identified on the territory between Bug and Nistru rivers which completes the way of spreading Christianity in Eastern Europe.
- Two wooden churches were restored and conserved : Palanca, Calarasi (XVIIth Century) and the Church from Hiriseni, Telenesti (XVIIIth Century);
- A draft Law on Protection of the Intangible Cultural Heritage;
- The National Strategy of Moldova - to safeguard the intangible cultural heritage of Moldova.

INTERNATIONAL COOPERATION EXPERIENCE

- National Inventory of the Intangible Cultural Heritage of Moldova in accordance with the 2003 International Convention for the Safeguarding of the Intangible Cultural Heritage, 2010;
- "Ethnic Consciousness in Moldova" Academy of Sciences, Vienna, Austria, 2010. AOS - Atlas of Eastern and Southeastern Europe. Up-to-date ecological, demographic and economic maps;
- Economy and Ritual Study in Moldova, Max-Planck Institute for Social Anthropology, Halle, Germany, 2010;
- National Training "The Museum Management", 2009, UNESCO Moscow Office.
- "UNESCO Conventions in the field of protection of cultural heritage in correlation with the national legal framework", Ministry of Culture MNEIN and UNESCO Moscow Office, 2009;
- "The Folklore and Contemporaneity", 2006;
- „Ethno-historic-demographic maps", 2010, Chisinau.
- "Water : History, Resources, Perspectives", 2010, the science academies from : Moldova, Romania, and Austria;
- "Cultural exclusion in Moldova" (part of the Report of Human Development on Social Inclusion in Europe and CSI), 2010.

INTERNATIONAL MANAGEMENT INSTITUTE “IMI-NOVA”

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The International Management Institute “IMI-NOVA” is an educational institution (higher education) offering Undergraduate and Graduate studies. The university staff includes over 86 doctors of Economics, university professors and lecturers that are actively involved in research activities. Notable achievements: the Moldova- EU Trade Research that resulted in a mathematical model for export stimulation; studies and calculations on the impact of European Integration and border liberalization on migration; the structural analysis of the housing market and the implementation of innovational market management tools; a comparative research on IT implementation in the region.

KEYWORDS ON CORE COMPETENCIES

European economic integration; international investments; labour market; social studies; crisis management.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The institute focuses on studies on European Integration, International Economics and Finance, Foreign Direct Investment and Macroeconomic Policy. The institute is skilled at doing fundamental research, analytical work, comparative studies and market research activities.

INTERNATIONAL COOPERATION EXPERIENCE

• University of Nice “Sophia Antipolis”, Nice, France; • University of Pierre Mendes, France, • University of Sorbonne, France; • The University of Malta “Link Campus”, Malta; • NOVI University, The Netherlands; • Keele University, Great Britain; • Degli Studi di Genova University, Italy; • The National Economic Development Institute, Romania.

International projects and activities :

• TACIS project “Perfecting economic teaching in Moldova” • Eurasia Foundation “Excellence in Business and Administration”; • REAP “Financial Services and Business Management in Moldova”; • AUPELF-UREF, “Lifelong learning for the Business and Civil Servant Community”; • USIA “Promoting Development through Higher Education in Moldova”; • Central European University, “Curriculum Research Centre” and “Course Development Competition” projects; • FRANCODE courses to teaching staff; • “RESEGE - Réseau d’Europe du Sud Est pour l’Enseignement de la Gestion des Entreprises”.

ACADEMY OF PUBLIC ADMINISTRATION OF MOLDOVA

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The research activities within the Academy of Public administration are being coordinated by the Centre of Theoretical and Applied Research, which has 4 scientific laboratories.

The main accomplishments during the last five years are research works by :

- Balan O., Burian A., Serbenco E., Public International Law, 2nd Edition, Chisinau : CEP USM, 2005;
- Popescu T., Political Theory (teacher's guide). Chisinau : Universul 2007;
- Blanoschi A., Economy of the Public Sector (course notes). Chisinau : AAP, 2008;
- Platon M., State Management : issues, searching solution. Chisinau : Universul 2009.;
- Manole T., Methodology of Financing the Public Education. Chisinau : UTM, 2010.

KEYWORDS ON CORE COMPETENCIES

Administration; political science; law; economics and management; public finance

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Scientific and Methodological Support in the Edification of the State of Law and the Modernization of Public Administration

INTERNATIONAL COOPERATION EXPERIENCE

- 2000-2004 : Project "Support to the local public administration and strengthening local governance in Moldova"/Funding : Swedish Agency for International Development (AIDS / SIDA) and SIPU International;
- 2002-2003 : Cooperation with USAID "Local Public Administration Reform Project" (LPARP) had the component : "Efficient information and communication process on the local administration level based on the joint Internet activities" / U.S. Agency for International Development (USAID).
- 2005-2006 : Project "National Strategy for Training the civil servants from local public administration of Moldova"/Funding : Council of Europe;
- 2006-2011 : Project on Public Finances Management /Funding : World Bank and the Swedish Agency for International Development /SIDA;

DEPARTMENT OF GENERAL PSYCHOLOGY

MOLDOVA STATE UNIVERSITY

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Department of General Psychology has 10 members; Its members deliver university courses such as the History of Psychology, Cognitive Psychology, Neuropsychology, Introduction to Psychology.

The scientific activity in the last five years has been directed at studying the relationship between personality and creativity, during which the researchers have published articles and scientific-methodical works, such as methodological guides, practical guides, theses and scientific articles.

KEYWORDS ON CORE COMPETENCIES

Creativity; development; integrity; analysis; organisation.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Development of university curriculum.

Development of Master's programmes.

Research on the quality of life of people in rural areas.

Developing the students' qualities of learning.

INTERNATIONAL COOPERATION EXPERIENCE

- Tempus project -2010 - MOLDINCLUD;
- Tempus 158980-2009 - Life Long Learning in the field of Inclusive Education.

UNIVERSITY OF THE ACADEMY OF SCIENCES OF MOLDOVA

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The University of the Academy of Sciences of Moldova (UnASM) is a young university promoting a novel value - “education through research” with the aim of supporting the development of the knowledge-based society in Moldova. UnASM was established as the primary step of creation of the cluster “University for Education and Research Univer SCIENCE”; the cluster includes a High School, 18 research institutes of the Academy of Sciences, the Agency for Innovation and Technologic Transfer, and Technological parks and incubators.

By these efforts, UnASM aims to become the model of the “Entrepreneurial University”.

Additionally, in UnASM is in the process of creating an educational incubator for offering support to young innovative teams.

There are about 200 employed staff at the university.

KEYWORDS ON CORE COMPETENCIES

Education through research; entrepreneurial university; educational incubator; e-learning; open educational resources.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Education and training;
- Event organizing;
- Education methodology elaboration and implementation;
- Development of e-learning platforms;

INTERNATIONAL COOPERATION EXPERIENCE

- TEMPUS Project “Student Active Learning in Science”, Partners : Georgia, Germany, Ireland, Israel, Bulgaria.
- TEMPUS Joint Project „Entrepreneurial University as a model for proper managerial interrelation among education, science and innovation development”. 2009-2012. Partners : Italy, UK (Scotland, Poland, Russia, Kazakhstan.

THE LABORATORY OF BIOINORGANIC CHEMISTRY AND NANO-COMPOSITES

THE INSTITUTE OF CHEMISTRY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The laboratory consists of 17 personnel. The scientific research interests are :

- Synthesis of mono and polynuclear coordination compounds of transition metals (nd, 4f) with mono- and polydentate ligands (Schiff Bases, carboxylic acids);
- Investigation of the polydentate ligands' molecular and crystalline structure (in collaboration with other research groups);
- Testing of the obtained complexes as catalysts, bioactive substances, single molecule magnets and MOFs.

KEYWORDS ON CORE COMPETENCIES

Coordination chemistry; physical methods in chemistry; nanoparticles

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Synthesis and study of mononuclear and polynuclear complexes;

Mixed valence iron carboxylate clusters;

Dynamic electron delocalization;

Biological active coordination compounds;

Cross-over phenomenons;

Chemical applications of the Mossbauer spectroscopy.

INTERNATIONAL COOPERATION EXPERIENCE

National Institute of Material Physics, Magurele, Romania;

Institute of Macromolecular Chemistry „P.Poni”, Iasi, Romania;

University of Florida, Gainesville, USA;

University of Hawaii at Hilo, Kawili St., Hilo, USA;

Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland;

University of Neuchâtel, Neuchâtel, Switzerland.;

FP7 IRSES „Photocatalytic Cluster Complexes for Artificial Photosynthesis Applications”.

09.820.05.09GF. Design and synthesis of new polynuclear compound as 3d-4f molecular magnets;

INTAS Projects : 94-2496; 2000-00018; 2000-00565; 05-1000008-7834;

MRDA-CRDF Projects : 3009; BGP III-#MOB2-3058; BGPII # MP2-3043; BGPIII # MOP2-3061; N 3319 (2003-2004).

SCOPES : IB-7320-110823

THE LABORATORY OF ORGANIC SYNTHESIS

THE INSTITUTE OF CHEMISTRY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**
FP7 theme : **KBBE**
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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Organic Synthesis was founded in 1959. The research of the laboratory has been oriented towards the creation of scientific bases of modern technologies with the view of obtaining compounds necessary for medicine, agriculture, food industry, chemical industry and other fields of human activity. The following important results in the field of development of organic synthesis fundamentals are worth mentioning : elaboration of methods, reagents, solvents - "ionic liquids" and organocatalysts, construction of polyfunctional open chain structures, of carbo- and heterocycles.

KEYWORDS ON CORE COMPETENCIES

Ionic liquids; catalysts for asymmetric synthesis; regio- and stereoselective reactions; biologically active products.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The laboratory is specialized in various aspects of organic and medicinal chemistry and is currently engaged in projects directed towards : the discovery of new catalysts (metal-mediated and metal-free) for asymmetric synthesis; mechanistic investigations of reactions which proceed with high levels of regio- and stereoselectivity; ionic liquids as green alternatives to solvents and the total synthesis of biologically active products with the use of computer-aided molecular design and structure-activity analysis. Total synthesis of biologically active products using computational methods of prognosis of biological activity.

INTERNATIONAL COOPERATION EXPERIENCE

International cooperation projects :

- The Royal Society International Joint Program „Asymmetric synthesis of HIV-1 non-nucleoside reverse transcriptase inhibitors”;
- INTAS projects Ref. № 2000-0711 and Ref. № 2006-8064;
- MD-Germany project Ref. № 09.820.05.08 GF;
- SCOPES, Ref. Nr.110823;
- MD-US projects CRDF/MC2-3007 and CRDF/MERL-7031,
- MD-Russia project - Ref. № 06.21CRF,
- MD-Belarus project Ref. № 05.15BF,
- MD-Ukraine project Ref. № 10.820.09.01/UA.

THE LABORATORY OF TERPENOID CHEMISTRY

THE INSTITUTE OF CHEMISTRY OF THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Terpenoid Chemistry is one of the leading research groups in the field of natural product chemistry and synthesis in Moldova. The main research focus is placed on the link between highly valued targets (biologically active, crop protection, fragrance, and available raw materials of agricultural origin). The group has received numerous grants from the EU and US funding agencies and succeeded in implementation of its own elaborations in production at local Moldova enterprises.

KEYWORDS ON CORE COMPETENCIES

isopenoids; organic synthesis; natural products; terpenes

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Super-acidic isomerisation, ozonolysis, target oriented synthesis

INTERNATIONAL COOPERATION EXPERIENCE

1. INTAS collaborative project. „Total and semi synthesis of bio-active terpenoids and sterols”. 1998-2000;
2. Individual fellowship awards : NATO-CNR, MRDA/CRDF, Alexander von Humboldt Foundation scholarship.

THE LABORATORY OF BIOCHEMISTRY AND PHYSIOLOGY

THE INSTITUTE OF CROP PRODUCTION "PORUMBENI"

Organization activity type : **RES**

FP7 theme : **KBBE**,

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory has been working since 1974. There are 8 researchers, of which one is a professor and two PhD doctors. At present, the laboratory is engaged in the evaluation of quality seed material (biological purity, germination and moisture, the biochemical composition of hybrids SPC Porumbeni, testing their resistance to temperature stress.

KEYWORDS ON CORE COMPETENCIES

Biochemistry; physiology; quality; biotechnology; evaluation.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The laboratory has potential for research in the direction of biochemistry, physiology, biotechnology, agrochemistry, agricultural production and water quality evaluation.

INTERNATIONAL COOPERATION EXPERIENCE

Bilateral project with the Institute of Genetics and Cytology, Academy of Science, Belarus - "Biological purity identification of parental forms and hybridization of first generation corn hybrids by biochemical-molecular technologies".

THE LABORATORY OF CORN BREEDING FOR NORTHERN AREAS

THE INSTITUTE OF CROP PRODUCTION "PORUMBENI"

Organization activity type : **RES**

FP7 theme : **KBBE**,

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Corn Breeding for Northern Areas works to create hybrids and inbred lines of early maize for their export in those regions with reduced temperature. The Laboratory has biological material and produces cold-tolerant genotypes which can mature in areas with low temperature.

Inbred lines are classified into heterotic groups for the creation of early hybrids.

In the last five years, the laboratory has developed 72 inbred lines, of which 21 are used in certified hybrids; additionally, 4877 hybrids were created and tested in different environments; 5 of the researched hybrids were promoted for state testing in Belarus and Moldova.

KEYWORDS ON CORE COMPETENCIES

Corn; germplasm; genotypes; inbred lines; hybrids.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The laboratory has 4 researchers, an agronomist and 5 technicians. The laboratory is the coauthor in the 24 commercial and new maize hybrids developed within Institute, possessing 14 certificates of plant varieties.

In collaboration with the Laboratory of Biochemistry and Physiology, the laboratory conducts research on cold resistance and evaluates the influence of low temperatures on seed germination and seedlings of inbred lines of maize, and the effects of herbicides on the chemical composition of kernels early corn hybrids

INTERNATIONAL COOPERATION EXPERIENCE

Over several years the Laboratory of Corn Breeding for Northern Areas has been developing early maize hybrids in cooperation with the Institute of Crop Production in Polesia, Belarus.

The cooperation research with the Institute of Crop Production from Belarus is performed in several directions :

- Bilateral exchange of biological material;
- Developing and testing corn hybrids;
- Breeding of testers to create three way crosses;
- Testing foundation seeds;
- Organizing demonstration plots.

THE INSTITUTE OF MICROBIOLOGY AND BIOTECHNOLOGY

THE ACADEMY OF SCIENCES OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Microbiology and Biotechnology (IMB) is an academic centre with 63 collaborators : 3 members of the Academy of Sciences of Moldova, 10 Doctor Habil. and 27 Ph.D. Doctors.

IMB is devoted to applied and basic research in the field of general and industrial microbiology.

The Institute hosts 9 research laboratories, with their main topics being :

- The conservation and efficient utilization of microbial resources;
- Improvement of the physiologic-biochemistry potential of microorganisms as biotechnological objects;
- Biodegradation activities of microorganisms and symbiotic relations in biological models;
- Elaboration of production technologies of the bioactive preparations designated for use in agriculture and medicine, food, pharmaceutical and cosmetics.

KEYWORDS ON CORE COMPETENCIES

Microbiology; microorganisms; xenobiotransformation; depositary

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Improvement of the physiologic-biochemistry potential of microorganisms as biotechnological objects; Elaboration of production technologies of the bioactive preparations designated for use in agriculture and medicine; food, pharmaceutical and cosmetic industry; Conservation and efficient utilization of the microbial resources.

INTERNATIONAL COOPERATION EXPERIENCE

2010-2012 : Bilateral project with Romania "Bioaccumulation and recuperation of metallic micro compounds from sludge obtained by solubilization of uranium using the cyanobacteria and microalgae", Nr 434.

2006-2009 : INTAS, „Development of Combined Technologies for the decontamination of organic pollutants from aquatic compartments : use of solar energy and immobilized cells (DECOTECH)”.

THE DEPARTMENT OF AGROTECHNIQUES AND PHYTOECNOMICS

THE STATE AGRARIAN UNIVERSITY OF MOLDOVA

Organization activity type : **HE**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Department of Agrotechniques and Phytotechniques includes a laboratory and a research station with 142 hectares with research facilities; there are 9 doctors of sciences and 5 members of staff without scientific degrees employed at the department.

The Department has elaborated 6 recommendations in the field of crop production and application herbicides in the last years.

KEYWORDS ON CORE COMPETENCIES

Crop rotation; technology development; crop production; weed management; soil tillage.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Development of new technologies of crop production and the adaptation of these technologies to climate change.

Development of ecological and nonpolluting technologies and the implementation of these technologies.

INTERNATIONAL COOPERATION EXPERIENCE

The members of the team have international experience taking part in diverse scholarship programs such as Tempus and Fullbright.

THE DEPARTMENT OF SPECIAL ZOOTECHNY, FACULTY OF ANIMAL HUSBANDRY AND BIOTECHNOLOGY

THE STATE AGRARIAN UNIVERSITY OF MOLDOVA

Organization activity type : **HE**
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BRIEF DESCRIPTION OF THE ORGANIZATION

The Department of Special Zootechny has a beekeeping laboratory and apiary with 30 families within the Faculty of Animal Sciences and Biotechnology at the State Agrarian University of Moldova. The department is led by the professor Nicolae Eremia.

There are five collaborators that activate in this laboratory : 1 university professor, 4 PhD doctor-researchers, 2 post university students, and 2 laborants.

In the last five years 74 scientific articles, two books, and nine inventions have been published. These works have received one golden, two silver, and one bronze medal at Mold Expo and Info-Invent events.

KEYWORDS ON CORE COMPETENCIES

Animal husbandry; beekeeping; bees families; honey; pollen.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Professor Nicolae Eremia is an independent expert at the Academy of Science of Moldova, and expert at the National Council for Certification and Accreditation concerning problems of Zootechny and Veterinary Medicine.

INTERNATIONAL COOPERATION EXPERIENCE

The Institute of Experimental Veterinary S.N. Vishelevski, Belarus;
University of Agricultural Sciences and Veterinary Medicine, Iasi, Romania;
University of Agricultural Sciences and Veterinary Medicine, Bucharest, Romania.

THE LABORATORY OF ECOLOGICAL TECHNOLOGIES AND STANDARDIZATION

THE INSTITUTE FOR PLANT PROTECTION AND ECOLOGICAL AGRICULTURE

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The main aims of the Laboratory of Environmental Technology and Standardization :

- Develop ecological technologies to protect agricultural crops;
- Study populations of harmful arthropods;
- Use of low-toxicity insecticides to reduce harmful arthropods;
- Methods of overcoming resistance of the major pests in apple orchards

In the laboratory, there are 8 scientists working, 5 of which are PhD Doctors.

KEYWORDS ON CORE COMPETENCIES

Ecological plant protection; orchards; pests; insecticide; resistance.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Development of mass rearing technology for phytophagous insects, predatory mites species and acariphagus insects.

Development express methods of pests and useful species resistance to insecto-acaricides.

INTERNATIONAL COOPERATION EXPERIENCE

2001-2003 : Bilateral project MRDA/CRDF "Baculoviral Preparations for Environment Protection in the Sustainable Agriculture".

THE DEPARTMENT OF VITICULTURE

STATE AGRARIAN UNIVERSITY OF MOLDOVA

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FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Department of Viticulture has been established in 1944. The department has awarded 40 doctoral theses, 7 doctor habilitat theses, and 400 undergraduate dissertations.

During the last 5 years, the department has published more than 30 scientific articles, 5 monographs; 3 books on viticulture, and national projects.

There are 1 Dr. habil, 3 professors, 3 associate professors and 1 university lecturer working within the department.

KEYWORDS ON CORE COMPETENCIES

Viticulture; grape varieties; plant introduction, biologically-active substances, scion-rootstock combinations.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The basic scientific directions : The application of biologically-active substances on the table grapes varieties;

Introduction of the precious table grapes varieties from other regions;

Research of physiological particularities of table grapes varieties depending on scion-rootstock combinations.

RESEARCH LABORATORY : BREEDING AND GENETICS OF FRUIT TREES SPECIES

THE INSTITUTE OF HORTICULTURE

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The main tasks are :

- Breeding of fruit trees : pomes (apple, pear, quince), stone (European plum, peach, apricot, sour and sweet cherries, almond), and nut (walnut, hazelnut) temperate and other species for the variable agroclimatic resources of Moldova;
- provide maintenance and sustainable use of fruit trees species for the studies or adaptability and plasticity of genotypes within main and specific characters;
- Perform DUS testing of new cultivars bred in Moldova.

The Experimental National collection holds 3035 varieties and 14928 hybrids, obtained from different types of hybridization, including diallelic ones.

During the last 5 years there have been 22 new varieties created and registered; according to agronomic, biological and economic parameters 57 varieties were selected and 56 hybrids evaluated.

KEYWORDS ON CORE COMPETENCIES

Horticulture; fruit trees species; breeding; biology; genetics

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Classic pomology (tree and orchard management, hybridization and evaluation of pome and stone trees and fruits);
- biotechnology methodologies (in vitro, applied and molecular genetics);
- Reproductive biology (fertilization, compatibility);
- potential for productivity (initiation, development and realization);
- bioregulators of fruit factors controlling cropping, ripening and quality;
- biochemical and sensorial traits of fruits' quality;
- light microscopy investigations.

INTERNATIONAL COOPERATION EXPERIENCE

Pilnity Research Institute of Breeding and Genetics, Dresden, Germany;

Nikita Botanical Garden, Ukraine;

R&D Institute for Fruit Trees Species, (Constanta, Baneasa, Voinesti, Iasi, Cluj) Romania;

University of Mendelu, Brno, Czech Republic.

Bilateral research projects :

- Foundation Stichting Dienst Landbouwkundig Onderzoek (DLO), The Netherlands;
- Research Institute Praktijkonderzoek Plant and Omgeving, Wageningen, The Netherlands;
- Institute International de Fruit Obtention (IFO-Angers), France.

THE MOLECULAR GENETICS LABORATORY

THE INSTITUTE OF GENETICS AND PLANT PHYSIOLOGY

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The main activity of the laboratory : molecular organization of genes from higher plants and their expressions, molecular markers and their use in genomic analysis.

The laboratory consists of 16 researchers.

Achievements in the last 5 years : molecular organization of genes from reproductive systems of tomato plants, molecular analysis of different genotypes of grapes to resistance to biotic and abiotic factors.

KEYWORDS ON CORE COMPETENCIES

Gene; genotypes; molecular organization; genomic analysis; gene expression

INTERNATIONAL COOPERATION EXPERIENCE

2008-2009 : Comparative genotyping of different Moldovan varieties of *Vitis vinifera*, INTAS-Moldova.

THE LABORATORY OF CORN BREEDING FOR SOUTHERN AREAS AND FOOD CORN

THE INSTITUTE OF CROP PRODUCTION "PORUMBENI"

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The main direction of the laboratory activities is to create corn hybrids FAO 300-500; it has about 800 sources of genetic material. The lab possesses about 100 sources of genetic material to create food maize.

There are 12 people working in the laboratory

In the last five years 13 corn hybrids have been cultivated in Moldova, Belarus, and Russia.

KEYWORDS ON CORE COMPETENCIES

Hybrid; genetic material; food maize; testing

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Staff : 4 doctors in agricultural sciences, 1 master and 7 technicians.

The laboratory is the coauthor of all commercial and new maize hybrids developed in the institute; it has more than 60 certificates of plant varieties, including 16 food corn hybrids.

THE LABORATORY OF PHYTOPHARMACY AND EXOTOLOGY

THE INSTITUTE FOR PLANT PROTECTION AND ECOLOGICAL AGRICULTURE

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

It was demonstrated that under the action of air saturated with sex pheromones (e.g noctuids of *Heliothis armigera*, *Agrotis segetum* and *Mamestra brassicae*) the females have a significant reduced fertility, and the number of sterile eggs increases. It was proved that the action of sex pheromones is extended to all phases of the development of pests.

The obtained results demonstrate the possibility of a successful use of sex pheromones in the elaboration of the males' disorientation methods with the scope of suppressing the population of pests even in the absence of breaking of sexual connection.

KEYWORDS ON CORE COMPETENCIES

Pheromones; trichogramma; pests; sterility; eggs

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Development procedures for the application of biologically active substances. Mass rearing of entomofagous and methods development for applying in the Integrated Pest Management Systems. Development of methods for the application of plant extract derived from species *Veratrum lobelianum* against *Leptinotarsa decemlineata*. Development processes of enhancing the *Trichogramma* quality mass rearing on *Sitotroga cerealella* eggs irradiated with gamma rays .

INTERNATIONAL COOPERATION EXPERIENCE

Agricultural Science and Veterinary Medicine University, Banat, Romania;

Institute for Plant Protection, Belarus, St. Petersburg;

Ioan -Cuza University, Iasi, Romania;

Institute of Plant Protection, Bucharest, Romania.

SORGHUM CROPS LABORATORY

THE INSTITUTE FOR PLANT PROTECTION AND ECOLOGICAL AGRICULTURE

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Laboratory of Sorghum Crops consists of 8 members : 4 scientific researchers and 4 technicians. As a result of scientific research in recent years, the laboratory has developed a set of self-pollination and sterile lines, synthesized and tested highly productive hybrid sorghum crops.

Positive results are obtained from improved materials and therefore highly productive hybrids (6-8 t / ha) of edible grain (endosperm amylopectin starch) and Soriz (*Sorghum oryzoidum*) have been developed.

KEYWORDS ON CORE COMPETENCIES

Breeding; sorghum; syrup; bioethanol; grits

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The laboratory staff made scientific research to elaborate advanced processes of castration and pollination on fertile base of flowering sorghum crops. High productivity of biomass (100 -120 t / ha with 14-16% of carbohydrates in juice) is obtained from sweet sorghum hybrids, created heterozygous Aa1 for forage production, glucose syrup, bioethanol, energy crickets. Development technology for sweet syrup production from sorghum sugar biomass.

INTERNATIONAL COOPERATION EXPERIENCE

Research Institute for Plant Protection, Bucharest, Romania

Ukrainian Academy of Agrarian Sciences, Kiev, Ukraine

THE INSTITUTE FOR PLANT PROTECTION AND ECOLOGICAL AGRICULTURE

THE LABORATORY OF PHYTOPATHOLOGY

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The staff of Laboratory is : 1 academician, 5 scientific researchers, 3 technicians.

The basic research of the laboratory is :

- Identification of Actinomycetes strains prospects for application in plant protection;
- Establishing the basic components and developing methods for a liquid formulation : Trichodermin, Gliocladin, Coniotirin and Nematophagin.

Determining the role of biological preparation applied for control of pathogen on agricultural crops and elaboration of application technologies.

KEYWORDS ON CORE COMPETENCIES

trichodermine; gliocladine; nematophagine; conioterine; white rottenness.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

We have developed a technology for liquid formula production and the application of biological means Trichodermin, Gliocladin, Nematophagin and Coniotirin in control of pathogen agents as sclerotinia root rot on agricultural crops : sunflower, grapes.

INTERNATIONAL COOPERATION EXPERIENCE

The Laboratory has a scientific collaboration in this domain with the Institutes for Plant Protection from Ukraine, Belarus, Russia.

THE INSTITUTE FOR PLANT PROTECTION AND ECOLOGICAL AGRICULTURE

CHEMISTRY LABORATORY OF BIOLOGICALLY ACTIVE SUBSTANCES

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The main focus of the Laboratory is : the synthesis of sex pheromones for pest agricultural crops : orchards, vineyards, vegetable and technical crops in obtaining ecological products (Lobesia botrana, Cydia pomonella, Grapholitha molesta, Grapholitha funebrana, Adoxophyes orana, Archips podana, Mamestra brassicae, Agrotis segetum, Heliothis armigera, etc.).

KEYWORDS ON CORE COMPETENCIES

Synthetic; sex pheromone; pests; orchards; fruit.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Production technology of sex pheromones Lobesia botrana, Cydia pomonella, Mamestra brassicae, Heliothis armigera.

After the investigations, preparations such as Grozdemon, Merenol, Armigali, FeroFun, FeroMol, FeroBras, were registered.

INTERNATIONAL COOPERATION EXPERIENCE

The Laboratory has a scientific collaboration in this domain with the Institute for Plant Protection from Ukraine, Belarus, Russia.

THE BIOTECHNOLOGY LABORATORY

THE INSTITUTE FOR PLANT PROTECTION AND ECOLOGICAL AGRICULTURE

Organization activity type : **RES**

FP7 theme : **KBBE**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Biotechnology Laboratory was founded in 1992. Staff : 15 researchers.

The main topics are : Investigation of Useful Microorganisms and Elaboration of the Viral and Microbial Preparations for combating of pest insect and pathogens. Elaboration of Integrated Pest Management. Ecological Problems in the Agriculture, Biological Plant Protection for Sustainable Agriculture. Investigation of the Vulnerability of agrosystems to climate change and carried out the basic direction of mitigation on of negative effects of climate change. Elaboration of the National Strategy and Law of Organic Agriculture they Implementation in Moldova.

KEYWORDS ON CORE COMPETENCIES

Pests, plant protection, biotechnology, ecology, environment.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Development of Phytopathogenic Agents, Baculoviruses and Entomopathogenic Microorganisms and Elaboration of the Viral and Microbial Preparations for combating of pest insect and pathogens, Elaboration of Integrated Pest Management, Ecological Problems in the Agriculture, Biological Plant Protection, Vulnerability of agrosystems to climate change, Elaboration of the National Strategy and Law of Organic Agriculture, Good Agricultural Practices.

INTERNATIONAL COOPERATION EXPERIENCE

1996-1997 - "Investigation of molecular bases of microorganisms for elaboration of biological preparations for plant protection" with Station for Scientific Research for Invertebrate Pathology (Saint-Cristol-Lez-Ales, France, 1998-1999 - "Elaboration of biological preparations for Environment Protection" with Research Institute for Biological Protection (Darmstadt, Germany);•

2001-2003 "Biological Preparations for Environment Protection in the Sustainable Agriculture" with University of California (Davis, USA);

1996-1998 Institute for Plant Protection, Bucharest, Romania, "Investigation of the main pest organisms and elaboration of the System of Integrated Pest Management;

1994-1999 Institute for Biological Sciences, Iasi, Romania "Investigation of the relationships between pest and useful organisms and elaboration of the System of Integrated Plant Protection (SIPP) for Sustainable Agriculture.

1997-2001 Station for Research Scientific for vegetable crops (Bacau, Romania "Investigation of the main pest organisms and elaboration of the SIPP in the vegetables.

1998-2000 Station for Research Scientific for orchards (Bacau, Romania "Investigation of the main pest organisms and elaboration of the SIPP in the orchards.

THE CENTRE OF MONETARY AND FINANCIAL POLICIES

THE INSTITUTE OF ECONOMY, FINANCE AND STATISTICS, THE ACADEMY OF SCIENCES

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Economy, Finance and Statistics (IEFS) is an organization from the science and innovation field, created as a result of merging the Institute of Economic Research of the Academy of Science of Moldova and the National Institute of Economy and Information of the Ministry of Economy and Trade.

Within IEFS there are five working services and 6 departments :

“Policies and mechanisms of economic growth”; “Agro-food economics and rural development”; “Financial and monetary policies”; “Social-economic statistics”; “Policies of social development “; “Analytical and informational studies”. At the moment, the Institute employs 105 persons.

KEYWORDS ON CORE COMPETENCIES

Foreign direct investments; monetary policy; fiscal policy; budgetary policy; remittances

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- Elaboration of methodologies for determining evaluation tools of monetary and financial systems of the real economy and its adaptation towards the conditions of Moldova;
- Development of the concept of inflation’s estimation, and elaboration of proposals regarding the modification of estimation algorithm;
- Recommendations on the implementation of some innovation mechanisms on the securities market of Moldova;
- Recommendations regarding improvement measures of financing science in Moldova.

THE INSTITUTE OF PHILOLOGICAL AND INTERCULTURAL RESEARCHES

FREE INTERNATIONAL UNIVERSITY OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

The Institute of Philological and Intercultural Researches was founded in 2005.

The Institute performs fundamental and applied investigations in the field of philology using an outstanding scientific and teaching potential of experienced researchers who possess up-to-date visions upon the theoretical pragmatic study : 7 University Professors, PhD habilitatus; 17 Associate Professors, PhD and 11 post-graduate researchers.

The Research Team issues the following publications : Intertext, Francopolyphonie, Symposia and Parcours Series, monographs, didactic supports, posted on the Institute web site.

The Institute has organized more than 20 international conferences and seminars.

KEYWORDS ON CORE COMPETENCIES

Languages, literature, terminology, translation, interculturality.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

The Institute develops its activities within 5 scientific directions : Linguistics and Glottodidactics, Translation and Terminology, Literature and Interculturality, Didactical and Managerial Processes in Higher Education, Communication and Mass-Media.

INTERNATIONAL COOPERATION EXPERIENCE

- **Confucius Institute, People's Republic of China**, Beijing (International Conference) ;
- **AUF, French Alliance : Francopolyphonie Project** (Editions 2006-2010);
- **University of Montpellier, France** (Collaboration on Publications);
- **University "Jean Monnet"**, Saint-Etienne (Master's Project);
- **University "Al. I. Cuza"**, Iași, Romania (organization of Conferences);
- **University "Spiru Haret"**, Bucharest, Romania (bilateral expertise) .

THE INSTITUTE OF STRATEGIC INVESTIGATIONS IN ECONOMY

FREE INTERNATIONAL UNIVERSITY OF MOLDOVA

Organization activity type : **HE**

FP7 theme : **SSH**

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BRIEF DESCRIPTION OF THE ORGANIZATION

Accredited in June 2008. Research profile - Strategies and mechanisms for restructuring the economy in Moldova. Staff : 1 corresponding member of the ASM, 8 Dr habilitat, 7 Drs, 8 research assistants. 2 specialized scientific councils for the defence of dissertations for academic degrees in economics.

In 2010 it reviewed 10 doctoral theses of citizens of Moldova, Romania and Israel.

Scientific journal "Economic Studies" category "C".

Researches :

The strategy of attracting investment in Moldova

The global economy and migration processes in Moldova

Strategy of development of international tourism in the light of globalization processes

Formation of strategic perspective of national economic development in post-crisis period.

KEYWORDS ON CORE COMPETENCIES

International economic relations; management and marketing; finance and banking; advanced econometric models

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

Strategies and mechanisms for restructuring the economy of Moldova

INTERNATIONAL COOPERATION EXPERIENCE

- **Romanian Academy**, Iasi Branch, Romania;
- **Minsk Institute of Management**, Belarus;
- **Spiru Haret University**, Bucharest, Romania;
- **Odessa Regional Institute of Public Administration of the National Academy of Public Administration**, Office of the President of Ukraine (ORIPA);
- **University Tomis**, Constanta, Romania;
- **University Petru Maior**, Tg.-Mures, Romania.

UNIVERSITY CENTRE OF MOLECULAR BIOLOGY

UNIVERSITY OF THE ACADEMY OF SCIENCES OF MOLDOVA

Organization activity type : **RES**

FP7 theme : **KBBE**

Contact person : Duca Maria

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BRIEF DESCRIPTION OF THE ORGANIZATION

UCMB is a research unit of the University of the Academy of Science of Moldova, comprising of 3 laboratories : The Laboratory of Bioinformatics, Laboratory of Genomics, and Laboratory of Proteomics. Over 20 people are engaged in research activities, the majority being young scientists.

The main objective of research is : • sunflower genetics and physiology; • cytoplasmic male sterility and the impact of abiotic and biotic factors; • the investigation of medicinal plants for their genetic variability and biochemical contents; • the exploratory analysis of gene expression under various conditions.

KEYWORDS ON CORE COMPETENCIES

bioinformatics; genomics ; proteomics; gene expression; molecular biodiversity

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

- The development and implementation of informatics and mathematical tools for storing, efficient administration and manipulation of various types of biologic data.
- Exploratory analysis of gene expression under various conditions;
- Gene expression in frame of genetic system CMS-Rf and induced male sterility (IMS) in plants (sunflower)
- The study of biochemical and molecular mechanism of host-parasite interactions (model system *Helianthus annuus* L.- *Orobanche cumana* Wallr.).
- The analysis of polymorphism in different cultivated plants for the evidence of some molecular markers of valuable traits
- Genetic variability and biochemical content in medicinal plants.
- GMO testing.

INTERNATIONAL COOPERATION EXPERIENCE

Project with Germany „Assessment of the pharmaceutical potential of medicinal plants in wild flora in Moldova”

Project with Belarus „Sunflower genotyping and estimation of the level of hybridization of the seeds by usage of molecular markers”

Project with Russia „Genetic control of male fertility restoration at sunflower with CMS”

THE LABORATORY OF RADIOPHYSICS AND ELECTRONICS

THE ALECU RUSSO STATE UNIVERSITY

Organization activity type : **HE**

FP7 theme : **Space**

Contact person : Prof. Eugeniu Plohotniuc

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Republic of Moldova

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BRIEF DESCRIPTION OF THE ORGANIZATION

The research team of the laboratory consists of 9 members : dr. conf. Plohotniuc Eugeniu; dr. conf. Abramciuc Valeriu; dr. Cabac Eugen; Tsiganash Ion; Borisov Irina; Botnariuc Serghei; Lisnic Pavel; Haidau Iulian; Tsicau Vitalie.

During 2006-2010 the investigation team has participated in 2 national scientific projects, has published 7 articles and 2 books

Books :

1. "Dynamic processes in ionosphere and methods of investigation" Iasi, Tehnopress, 2006, 284 p.;
2. "Ionosphere and applied aspects of radio communication and radar" New York, CRC Press, Taylor&Francis Group, 2008, 577 p.

KEYWORDS ON CORE COMPETENCIES

Ionosphere; radiowave; ionosound; ionospheric plasma; radio communication.

EXPERTISE / COMPETENCIES / TECHNOLOGIES / RTD KNOW-HOW

radiophysics; methods of ionosphere diagnostics, ionospheric radio communication channels and radiotraces; radio and electronics devices.

INTERNATIONAL COOPERATION EXPERIENCE

The team has participated in 2 bilateral scientific projects with the Radiophysical Research Institute (Nizhny Novgorod, Russia) and the Institute of Earth Magnetism, Ionosphere and Radiowaves Propagation - IZMIRAN" (Moscow, Russia) .

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