

QUESTIONNAIRE

(*) – mandatory fields

	Details about organisation
* Organisation name	YEREVAN INSTITUTE “PLASTPOLYMER”
Organisation acronym	
* Organisation Activity Type (RES - Research, HE - University, SME - Small and Medium Enterprise, IND - Industry, OTH - Other)	RES
* Keywords of main research areas	Vinylacetate, polyvinylacetate, polyvinyl alcohol, polyvinyl butyral
* Head of organisation (first name, family name)	Patvakan Voskanyan
* Post code	0007
* Country	Armenia
* City	Yerevan
* Street, House	Arshakuniats av., 127
* Telephone (+ country & city codes)	(374-10) 48 80 90
* Fax (+ country & city codes)	(374-10) 56 75 11
* E-mail	plastpolymer1@yandex.ru

* Description of organisation and its research achievements for the last five years (~ 5000 signs)
<p>The Scientific-Research & Project Institute “ArmNIIHimproject” was founded in 1958 in Armenia, the laboratory of polymer processes began to function. In 1968, as the Yerevan branch this laboratory was included in the Ochta scientific-industrial association “Plastpolymer”. Taking into account the achievements of the Yerevan branch of Ochta scientific-industrial association “Plastpolymer” in the field of development of vinyl-acetate and polyvinyl-acetate plastics, in 1978 by the Decree of the Ministry of Chemical Industry, Yerevan Branch became the Head Institution in the field of vinyl monomers and polymers on their basis.</p> <p>After the collapse of the USSR on the basis of the Yerevan branch of Ochta scientific-industrial association “Plastpolymer” in 1992 Yerevan Scientific Research Institute “Plastpolymer” was registered.</p> <p>Researches and projects of the “Plastpolymer” traditionally covers practically all directions of the science and technology in the field of polymers on the base of vinyl acetate, which found their reflections in 6 monographies, numerous articles (more than 200) and more than 150 patents. Technologies elaborated at the Institute allowed to organize more than 15 large capacity productions of vinyl and polyvinyl plastics.</p> <p>During last 15 years on the basis of the test installations the large capacity production of gomo and co-polymer dispersions and lacquers on the base of polymer derivatives of vinyl-acetate was established. Also, for the period of 2000-2005 in the frameworks of thematic directions of institute researches there was carried out applied research</p>

together with a number of major Armenian as well as Russian producers, in particular :Yerevan jeweler Fabrics (Yerevan, Republic of Armenia), Joint Stock Company “Grand Tobacco” (Yerevan, RA), Joint Stock Company “Tigran Mets” (Yerevan, RA), Joint Stock Company “Russian Aluminum” (Moscow, Russian Federation), Open Joint Stock Company “Nevinomyssk Azot” (Nevinnomyssk, RF), Open Joint Stock Company “shavrolen” (Budennovsk, RF), Joint Stock Company “GIPROPLAST” (Moscow, RF).

The involvement of our institute into ISTC programs for the last 10-year period was caused by the fact that the scientists of our institute were earlier involved into the scientific research programs related to the defense and atomic industry of the former USSR (highly energetic powders, plastic explosive substances, coverings for protection of external surfaces of the units of armament and military equipment against the poisoning and radioactive substances, etc). In particular, besides the above mentioned activity the employees of our institute participated in development of a special product, which was a component for the highly effective fuel for rocket delivery means.

	Contact Information
* Contact person (first name, family name)	Patvakan Voskanyan
* Department / Laboratory	Yerevan Institute Plastpolymer
* Position	Executive Director
* Qualification and research experience	Senior researcher, Candidate of Chemical Sciences
* Post address (house, street, city, code, country)	Arshakuniats av., 127, Yerevan 0007, Armenia
* Telephone (+ country & city codes)	(374-10) 48 80 90
* Fax (+ country & city codes)	(374-10) 56 75 11
* E-mail	plastpolymer1@yandex.ru

International co-operation / Participation in EU RTD programmes or other bilateral / multilateral actions
INTAS, TACIS, TEMPUS, COST, EUREKA, other RTD programmes (please specify programme/s, project title/s and year/s)
<p>In the period from 1999 till 2007 in the framework of the ISTC successfully the below mentioned three projects were fulfilled:</p> <p>Project A-183 “Synthesis of copolymers of VA with unsaturated carbonic acids, as in aqueous medium, as well as in organic solvents. Synthesis of modified polyvinylalcohols with wide range spheres of application”</p> <p>Main results:</p> <ul style="list-style-type: none"> - New copolymers of medical purposes. They have antidepressive properties along with minor toxicity. Tentative tests have shown that these copolymers are a basis to create the polymer psychotropic medicines having antidepressive activity (IP: RA Patent AM1258 A2 (2002). - Modified polyvinylalcohol to be used in different industrial application and

medicine. (Patent RA #1246 (2002), PCT (WO 03/002619 A1, 09.01.2003)

Project A-359 (2001-2004) “Synthesis of high molecular weight polyvinylacetate with little branching and narrow molecular weight distribution in aqueous medium. Obtainment of polyvinylalcohol and polyvinylacetals on its basis”

Main results:

- On the basis of manganic chelate complexes PVAc was obtained with molecular mass up to $1.6 \cdot 10^6$ and degree of branching from 0.2 to 0.9. The degree of polymerization of RVA up to 1400. High molecular weight PVA with content of acetate groups from 2 till 15% is an effective emulsifier and for aqueous solutions and dispersions. (Patent RA #1431 A2(2004)).
- On the basis of the highmolecular PVA the gamma was synthesized polyvinylalcohol, which can be used as for the membranes and films of different technological purposes obtaining, as for the obtaining of high module fiber for the composite materials and means of anti-ballistic defense.

Project A-948 (2004-2007) “Research and Development of New Polymer Materials for Treatment of Radiation/Thermal Burns”

Main results:

- The field high-effective hydrogel materials were elaborated for treatment of burns and radiation with the increased antibacterial feature
- Methods of the usage of new film materials on the experimental animals were corrected according to the results of medical-biological test

	* Please, use “X” to indicate the scientific area/s of your potential project
CHEMISTRY	X
SOCIAL AND HUMAN SCIENCES	
ECONOMIC SCIENCES	
ENGINEERING SCIENCE	
ENVIRONMENT	
AGRICULTURE AND FOOD	X
HEALTH	
MATHEMATICS	
INFORMATION SCIENCE	
PHYSICS	
NANOTECHNOLOGIES	
ENERGY	
TRANSPORT	
SPACE	

*** Summary of potential research project envisaged hosting of European researcher for the period of between 1 and 2 years**

- **In the field of the synthesis of monomers**
 - Carriers for obtainment of coated metallic catalyst for application in organic synthesis and petroleum chemistry;
 - Catalysts on the basis of platinum group metals for synthesis of vinyl esters in gas phase The process of synthesis in gas phase of allylacetate on the basis of propylene and synthetic glycerin on allylacetate basis;
 - Extracting precious metals from worked off catalysts for syntheses of vinyl esters.
- **In the field of the synthesis of polymers**
 - Research and Development of New Polymer Materials for Treatment of Radiation/Thermal Burns Modified poly(vinyl alcohol): a new modification, study of liquid crystal solutions and films to be used in the preparation of liquid crystal films, biodegradable films and membranes Elaboration of new highly effective polymeric compositions on water basis with multifunctional significance, providing reliable protection, localization and isolation of different surfaces from radioactive pollutions
 - Synthesis and study of the new group anti-tumor agents on the bases of nitrogen containing spiroheterocyclic compounds and their polymeric forms
 - Development and study on thromboresistant polymers and coverings for implantants and miscellaneous medical articles
 - The synthesis of super-porous polymer carriers based on polyvinylalcohol for immobilization of biologically active compounds. Creation of working layer with immobilized ferments and cells for biosensors;
 - “Power-Saving with Increased Ecological Safety Technology of Synthesis of High Molecular Weight Thermostable Polyvinyl Alcohol for Obtainment of Membranes for Fuel Cells, Fiber, Cryogels”
 - New nanoscale metal- containing polymeric compounds on the basis of novel structure -less (amorphous) metals and their derivatives
 - Making high-performance ecologically safe vibronoise absorbing composite materials based on polyvinylacetate plastics;
 - Synthesis of PVA, double and ternary copolymers on the basis of VA in the form of dispersions, suspensions and laquers. Expansion of mark assortment of PVA dispersions including bead homo-and copolymers of vinylacetate.

	Please, confirm your agreement on data publication and dissemination
I agree with the publication of the data on the web-site http://www.inco-ecca.net , and dissemination among Mobility National Contact Points of the EU MS and AC (YES / NO)	YES
Date	20.11.2008