

HORIZON 2020 - Partner Profile Form

Expression of Interest

1) ORGANISATION INFORMATION

Organisation name	SPC “Armbiotechnology” NAS RA
Organisation address	14 Gyurjyan Str., Yerevan 0056, Republic of Armenia
Organisation website	http://armbiotech.am/arm/indexeng.html
Type of organisation (Enterprise, SME, Academic, Research institute, Public body, Other - specify)	Academic and Research institute
Department/Unit/ Laboratory	Laboratory of Biosynthesis Technology
Contact person (incl. Title)	Anna Mkrtchyan
Position (Function)	Coordinator of Grant Policy of the SPC “Armbiotechnology” NAS RA Department of International Relations of SPC “Armbiotechnology”
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Description of the organisation (up to 500 characters)

The Scientific and Production Center “Armbiotechnology” is the leading scientific-research center of the Republic in the field of biotechnology.

The Center collaborates with numerous organizations of the USA, Canada, Mexico, Japan, China, European Union, Russia, Belarus, Ukraine. This collaboration resulted in successful realization of joint scientific research grants and projects (INCO-COPERNICUS, ISTC, INTAS, CRDF, ANSEF, EURASIA Foundation, NATO Program, etc.).

Description of the department/unit/laboratory (up to 500 characters)

Laboratory of Biosynthesis Technology. The Laboratory of Biosynthesis Technology are developed more than 12 laboratory and pilot order (line) for producing L-amino acids. On the basis of developments are launched production of L-amino acids in Ukraine, Belarus and Kyrgyzstan. The technologies of laboratory is introduced in Degussa (Germany) and Rex (France). Chinese Academy of Agricultural laboratory also has acquired this technology. Laboratory on the base of pilot installation was produced D-alanine, D-proline, D-serine for The Center of Cardiology (Moscow) and the Center for Oncology (Moscow).

2) SPECIFIC INTEREST (Call, Topic) and EXPERTISE OFFERED

Relevant topic(s) in the Work Programme (Thematic area, Call, Topic)

Societal Challenges: Health, demographic change and wellbeing

CALL: Personalised medicine

TOPIC : In-silico trials for developing and assessing biomedical products.

Deadline : 14 March 2017

The project is called "Creation of silico methods for simultaneous measurement of cell suspension"

Description of the expertise offered related to the topic (up to 1000 characters)

To simultaneously study numerous processes occurring in the cell during life cycle, suspension cultures with synchronized cell division and growth are used. Actually the culture with concentration 10^5 - 10^8 c/ml should function as one enlarged (10^5 - 10^8 times) cell. In reality it is not so since all cells of the population divide during 1/4-1/3 of the life cycle period rather than simultaneously, and the existing methods of synchronization distort the processes occurring in the population cells.

Members of the project have elaborated an alternative method called "phantom synchronization" that excludes the necessity of synchronization of the suspension culture cells division and growth. The mathematical model determining the values of parameters of the cell processes (microparameters) based on the culture parameters (macroparameters) underlies the proposed method. The calculated values of the cell are much more precise than those taken from the traditional synchronized culture.

Cell cultures are grown in tubes, flasks, bioreactors. The facilities of nine types of devices will be expended by adaptation for measuring parameters of cell processes.

Keywords describing the expertise offered related to the topic (up to 10 words)

suspended cell culture, mathematical models, determination of parameters of cell processes

Experience in previous Framework Programmes (participation in projects)

Grants / Agreements including:

- ✓ ISTC#A-683, 2002-2005. Investigation of a New Type of Water Soluble Natural Biological Active Melanin: Development of the Tecnology for Biosintheses, Extraction and Purification; stady of the Cemical structure, Physiological Activity. The head of the technological group.
- ✓ AAT-6-55163-01,2006-2008. "Improving the Economics of Biomass-Derived Sugar Production via an Immobilized b-glucosidase Process". The head of the technological group.
- ✓ ANSEF 2007 #537- NS biotech. Improvement of citric and its salts production technology.The head of the technological group.
- ✓ ISTC#A -1868, 2011-2012. Development of the new production technology of ecological safe complex biofertilizer based on nitrogen-fixing microorganisms and modified zeolites. The head of the technological group.
- ✓ ISTC#A-1677,2009- 2012. The Synthesis of Potential Biologically Active Heterocycle Substituted a-Amino Acids and Peptides.Investigation of their Antibacterial, Antiviral and Antitumor Properties. The head of the tehnological group.

(Thematic area, Call, Topic, Project full title & acronym, Role in the project)

Societal Challenges : Health, demographic change and wellbeing

CALL: Personalised mticine

TOPIC : In-silico trials for developing and assessing biomedical products.

The project is called "**Creation of silico methods for simultaneous measurement of cell suspension culture process parameters by traditional methods and standard equipment for the development and evaluation of biomedical products**".

We are searching the partners of the project.

I agree to have this partner profile (expression of interest) published and shared

YES

Lessing S. Ghazaryan

Ph.D. in Physico-Mathematical Sciences
(Biophysics, Theory of Cell Populations)