

Russian regional scientists project proposals for participation in FP7

THEME 1: Health

[FP7-HEALTH-2010-single-stage](#)

[FP7-HEALTH-2010-two-stage](#)

[2.4. TRANSLATIONAL RESEARCH IN OTHER MAJOR DISEASES](#)

[3.5. SPECIFIC INTERNATIONAL COOPERATION ACTIONS FOR HEALTH SYSTEM RESEARCH](#)

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Is interested in participation in a project that will be prepared and submitted in the following topics:
Distributed express-diagnostics information system of human state of health and personal help

Expertise offered:

The aim of the proposal is the development of Distributed express-diagnostics information system of human state of health and personal help, which implements functions of operative observation and automatic express-diagnostics of population state of health. The main source of information for the express-diagnostics are biosignals, registered by portable terminals and transmitted to Computer-aid processing and decision making Centre with use of Internet. The approach, which is realized in this proposal, based on the fundamental and system notion about human body as the integrity of intraorganism bonds. Peculiarity of the system is the original method of joint biosignals analysis, based on the latest achievements in area of nonlinear dynamics and biophysics.

Electrophysiological biosignals (electrocardiogram, pulsogram, pneumotachogram) are used as the source data. Each of them is the carrier of information not only about state of specific organ but also about state of human body as a whole. Efficiency of such methods is conditioned on absence of subjective assessment of a doctor. This allows to automate the process of human state of health express-diagnostics. We suppose to use the model of system "heart-vessels-lungs" as the basic system, which allows to judge about functional state of human body and its adapting features. This clinical 'portrait' of human body is defined by signs, presenting the aggregated level of information, which is used for estimation of human state of health as a whole and in diagnostic purposes.

Explorations in this area are relevant today. This is because of Russian and foreign scientists are interested in development of personalized systems of remote monitoring of human body and integral approaches of early illness express-diagnostics without using of expensive equipment.

As a result of the proposal implementation we are planning to develop methods and algorithms of biosignals coprocessing, to define criterions of functional state of human body estimation, to develop portable terminal, allowing to register and transmit biosignals in home conditions, using Web-technologies and to develop the model of Information-analytical system of express-diagnostics of human state of health. This system will allow to reveal functional deviations in human body on early stages and to predict consequences in future. Also biomedical system will allow to automate processes of population dispensarization and to do its results objective, to save and complement them during the whole live. The database of the concrete person will serve as objective factor of his state of health during his whole live.