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:
Optoelectronic noninvasive vision system for deep vein thrombosis diagnostics

Expertise offered:
Nowadays automated diagnostic systems come in wide use in different fields of medicine. These systems allow to decrease time period required for diagnostics, to reduce diagnosis subjectivity, to reduce complexity of diagnosis statement process. The suggested optoelectronic deep vein thrombosis diagnostic method provides noninvasive screening diagnostics of lower extremities deep vein thrombosis on early stage of disease evolution.
The developed method is based on shank images obtainment from different angles of view in free state and after surface veins cross-clamping by a compression cuff, shank three-dimensional surface reconstruction by comparing the identical shank points on different images, three-dimensional shank points coordinates computation, three-dimensional surface creation using the elementary triangles approximation, shank volume computation before and after surface veins cross-clamping by summation the volumes of elementary tetrahedrons.
The researches are based on 3 patents of Russian Federation.
Problems to be solved and results:
The proposed deep vein thrombosis diagnostic allows to:

- ✓ perform diagnostics of lower extremities deep vein thrombosis on early stage of disease evolution with greater reliability comparing to the existing methods;
- ✓ lower diagnostic hardware that will be at 8-12 times lower then the existing analogues; render automatic diagnostic process and lower it's complexity that allows low qualified medical staff to reform diagnostics.