crossroads of several scientific areas: tele-communications, electrical engineering, medicine, biology and others. Due to this fact, experts of these areas were involved in the project.

Implement of research project requires from participants to look at the object of study from a different angle, which leads to appearance of the new problems in different fields of science, that earlier did not get into the field of researchers view. The main tasks that should be solved on the way to implement the system of Biodriver, include the following:

- development of a universal basic model of artificial nanomachines and its further use to create sensors and actuators;
- development of the body gateway;
- development of the effective ways to transmit information from the artificial nanomachines to the body gateway;
- a study of the data transfer between the body gateway and the Computing Centre;
- an analysis of the system security against the external Biodriver intentional and unintentional impacts;
- development of the algorithms for error protection during data transfer between the Biodriver system elements;
- development of the routing protocols in networks of the nanomachines;
- a search for effective ways to power the nanomachines and the body gateway;
- a study of the impact of prolonged high-frequency radiation (THz) on the living cells;
- a feasibility study of nanonetworks to improve methods of collecting information about the state of the organism.

According to some of these problems interim results are obtained, which will be presented in the subsequent publications.

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Dr. Ruslan Kirichek working in St.Petersburg University of Telecommunication as Associate Professor Department of Telecommunication Networks and Data Transmission. He was born in 1982 in Tartu (Estonia). He graduated Military-Space Academy A.F. Mozhaiskogo and St.Petersburg University of Telecommunication in 2004 and 2007 respectively. R.Kirichek received Ph.D from St.Petersburg University of Telecommunication in 2012. Since 2004 he worked at IT-department of the Air Force as a senior engineer. Since 2008 worked as a senior researcher at the Federal State Unitary Enterprise "Center-Inform". Supervised research testing communication networks in terms of destructive influences. Since 2012 worked as the Head of the Internet of Things Laboratory at St.Petersburg University of Telecommunication.

Dr. Rustam Pirmagomedov was born in Surgut (Russia) 19.07.1988. In 2010 he graduated from St.Petersburg State University of Telecommunication (SUT). In 2014 he received the Ph.D. in SUT. Now Rustam Pirmagomedov working as associated professor of the department "Telecommunication Networks and Data Transmission" in SUT. His scientific areas of interest are the IoT, nanonetworks, body area networks, it-bio interfaces.

Dr. Ruslan Glushakov was born on April 16, 1982 in Kaliningrad, Russian Federation. From 1999 till 2006 studied at Military Medical Academy. After graduating from Military Academy served in the Navy as a chief medical officer. In 2011 returned to the Military Medical Academy as a surgeon, than inspector, from 2013 to present senior assistant the head of the research division of Military Medical Academy. In 2012 he became the Ph.D, dissertation topic "Biological markers of aggressiveness of hormone-dependent tumors in the altered thyroid status".

Dr. Sc. Andrey Koucheryavy was born in Leningrad 02.02.1952. After graduated from Leningrad University of Telecommunication in 1974 he going to Telecommunication Research Institute named LONIIS, where A.Koucheryavy working up to October 2003 (from 1986 up to 2003 as the First Deputy Director). He became the Ph.D. and D.Sc. in 1982 and 1994 respectively. A.Koucheryavy is the St. Petersburg State University of Telecommunication (SUT) professor from 1998. He is Chaired professor of the department "Telecommunication Networks and Data Transmission" from 2011. He is honorary member of A.S.Popov's society. Prof. A.Koucheryavy was the vice-chairman Study Group 11 ITU-T (Study periods 2005-2008, 2009-2012). His scientific areas of interest are the network planning, teletraffic theory, IoT and its enablers.