

IAF/IAA SPACE LIFE SCIENCES SYMPOSIUM (A1)  
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Author: Mr. Mark Belakovskiy  
Institute for Biomedical Problems, Russian Federation, info@imbp.ru

Agaptseva Tatyana  
Institute of Biomedical Problems (IBMP), Russian Academy of Sciences (RAS), Russian Federation,  
tatiana\_agaptsev@mail.ru

Dr. Anna Kussmaul  
Institute of Biomedical Problems (IBMP), Russian Academy of Sciences (RAS), Russian Federation,  
annakussmaul@gmail.com

Mr. Sergey Ponomaryov  
Institute of Biomedical Problems (IBMP), Russian Academy of Sciences (RAS), Russian Federation,  
dr.grey@bk.ru

THE ISSUES OF INTEGRATION AND COORDINATION OF SCIENTIFIC PROGRAMS IN  
LARGE-SCALE INTERNATIONAL BIOMEDICAL ANALOG RESEARCH

**Abstract**

Taking into account our experience of cooperation with leading space agencies and scientific institutions in joint research programs both on board space objects and in analog research, we believe that the comprehensive integration of scientific experiments into the research program, as well as the coordination of their conduct, is an important factor in achieving success in the international projects involving several, and sometimes many, participants from different countries. Since international analog research scientific programs frequently include dozens of experiments presented by the institutions not only from different countries but from different parts of the world, it is the integration of all the proposed experiments into the major scientific program becomes the most problematic. When conducting the integration procedure, the Scientific Committee faces such challenges as: •Insufficient data to make reasonable predictions about the possibility of conducting the proposed experiment within the framework of analog project. •Too long (or indefinite) time from the launch of the project to the final result leading to higher risks, which does not always comply with the planning policy of the organization that submitted the experimental application. •Ensuring the confidentiality of scientific and commercial information for the end user of the results obtained in the experiment. •Legal issues, including intellectual property rights protection, the responsibility of partners, the signing of data sharing agreements, etc. •Determining the balance of parties contributions, taking into account the high cost of the project and the impossibility to take into account all the costs of its implementation. •The established organizational approaches and work procedures adopted in a particular country. •The issues of equipment and consumables export/import. •The differences in the mentalities of the participants, etc. However, if the parties are truly interested, these problems can be solved. Coordinated implementation of the agreed scientific program leads not only to mutual enrichment of the parties (accumulated knowledge, practical experience, technical, financial and methodological capabilities), but also makes it possible to avoid unnecessary duplication of similar procedures, optimize the timeline (schedule) of crew activities, and increase the effectiveness of ongoing activities and research. It is obvious that conducting integrated analog research with the participation of leading scientific and space institutions from Europe, America, Asia, etc. will allow to collect unique data for the development of countermeasures to adverse effects of long-duration, including interplanetary, missions on the health and performance of crews, and to make the widespread commercialization of space

technologies possible.