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The forecasting of the scientific research progress is possible for the applied aspects in case of understanding the general plan of specific activities development. The space research prospects should follow the human doctrine in space, which is quite simple: a man's leaving Earth and reclamation of new space home. This "new home" also is the key question. It is usually associated with the creation of colonies on the surface of Mars and planetary satellites. However, a radical obstacle to this is the unavailability of human beings to live in conditions of the reduced gravity of the Moon and Mars, being in their earthly bodies, at least in the next decades. The hope for the medicine development will not cancel the physical degradation of the muscles, bones and the whole organism. The rehabilitation in centrifuges is less expedient solution compared with the ship-biosphere where it is possible to provide a substantially constant imitation of the normal gravity and the protection complex from any harmful influences of the space environment. If the path of space exploration is to create a colony on Mars and furthermore the subsequent attempts to terraform the planet, it will lead to the unjustified loss of time and money and increase the known risks of human civilization.

The nearest challenge on our way to the Outer space besides the more perfect carrier creation and resources investigation is maintenance of the high-grade environment for life in space houses – the search of an optimum size, design and bacterial stability of the separate biosphere biocenosis, the development of the interact families of these biospheres. Simply speaking it is necessary to provide a certain comfort for the people's life in the space. It will allow to replace military pilots with experts of necessary professions and to form viable space colonies. It will allow not only to operate effectively the robotized investigation of space objects from a board of space biospheres but also to develop scientific researches by space colonies themselves.

It is obvious that the main barrier which is necessary for overcoming in space is not disembarkation to planets and satellites but a birth of viable full-grown generation of space children.

Already now we see the role of the basic catalyst of a wide human exit in the Space will be carried out by commercial activity of the arising space consortia especially in sphere of the space resources extraction. Owing to it the influence of political and other factors on the outer space exploration development is minor.

Considering the aforesaid the nearest prospects of the applied scientific workings out in the field of studying and the outer space exploration till 2030 can be connected with following directions:

- The designing of the first space biospheres with artificial gravitation will demand scientific implementations in the spheres of material technology, life-support systems, the protection, the robotized complexes for installation and service of the infrastructure elements in the outer space.
- At the first biospheres constructed in the low terrestrial orbits it is urgent to begin the reproductivity research in the space conditions on mammals.
- The prospect of disembarkation on Mars insistently demand the concept of planetary protection. It is connected and with the life searches on Mars and Europe. At the same time the actual problem is the water investigation on the Moon poles, the low latitudes of Mars and asteroids. At a sight of the author the most perspective places for the life search and water extraction in the low latitudes of Mars are big hydrolaccoliths [1,2]. And the Martian slope streaks studying [3,4], probably, will lead to the technology of fresh water receipt without power expenses.

- The preparation for the big biosphere building for the first colonies demands working out of the new effective vehicles first of all for the raw materials and constructions delivery from the Moon surface.
- The resources investigation of the asteroids and the most accessible objects of Solar system demand the universal robots-scouts creation.

In 2030-2050 following the logic of the biosphere idea development it is possible to expect:

- the building and testing of the inhabited biospheres in the low orbit of Earth, their transfer and modular integration in the orbit of the Moon with the resource maintenance with the lunar and asteroid material.
- it will be the most actual the medical and biologic researches onboard biospheres directed on the maintenance of valid development of children born in space.
- it will be required the reliable space shuttles for the communication of the orbital colonists with the Moon and Mars surfaces where stations for short-term stay of experts will be under construction. There also will be developed the extraction, raw materials processing and biosphere constructions manufacturing and space transport.
- during this period the same robotized complexes are reasonable to create on Phobos and on one of the asteroids with the extended orbit which will play also a role of the main space bases and the cosmodromes.
- the prospect to find a planet with the conditions similar to Earth which surfaces can be used as inhabited spaces can appear under condition of the tool perfection for the studying of planetary systems of the nearest stars.

The settling in Solar system and the development of its resources will continue some centuries but already in second half of this century prior to the beginning of the development of a belt of gas planets and objects of Kuiper belt the humanity will be technologically ready to go to other star systems on the big independent biosphere which design will be prepared by the previous experience of the space houses building.

Thus, the prospects of the applied space science on the nearest future will be inseparably connected with the arrangement of the new house for people – the space biospheres.

**References:** 1. Yakovlev V.V. Conditions and mechanism of Mars big hydrolaccoliths formation/Fifth Mars Polar Science Conference (2011) 6026; 2. Yakovlev V. Hills Zephyria Planum – a source of deep resources./First Landing Site/Exploration Zone Workshop for Human Mission to the Surface of Mars (2015) 1016.pdf. 3. Yakovlev V.V. Slope streaks on Mars – gravity-capillary displays of water/41st Lunar and Planetary Science Conference (2010) 1333; 4. Yakovlev V.V. About the water role in the slope streak formation on Mars/ Digest of the scientific works of the Ukrainian State Geological Prospecting Institute №2. Kiev, 2013 PP. 111-121.