

What is the situation with Personnel in Life Sciences?

The field of “Living Systems” is a priority in the Scientific and Science Education Personnel FTP, which is evident from the statistical data on the event Conduct of Scientific Research by Educational Scientific Center Staff (Table 1).

The overall level of competition in 2009 was 5.1 applications per grant. For comparison, in 2009 the average level of

competition in the “nanotechnology and nanomaterials” field was 8 applications per grant.

Interestingly, judging by the first stages of the “Living Systems” in 2010, competition has increased as compared to 2009; however, the average size of a contract in 2010 is much smaller (this is probably because of the inadequacies in the governmental

purchases legislature). The increased competition is due to the increasing phenomenon of “price dumping” applications which use the flaws of the Federal Law № 94 on Government Purchases and which leads to the breaking-up of government funds into ever smaller grants. In practice, the average amount of a grant in 2010 is 1.5-2 times smaller than was planned

Table 1.

Name of the indicator	Event 1.1	
	2009	2010*
Number of application (Life Sciences)	421	333
Number of supported ESC projects (Life Sciences)	82	43
Overall amount of funds, million rubles	986.0	377.9
In 2009	312.6	-
In 2010	353.0	126.0
Average size of contract, million rubles	12.0	8.8
In 2009	3.8	-
In 2010	4.3	2.9
Maximum size of contract, million rubles	15.0	12.5
In 2009	5.0	-
In 2010	5.0	4.2
Minimum size of contract, million rubles	6.0	4.5
In 2009	0.5	-
In 2010	2.0	1.5
*The 2010 competitions are still in progress.		

Table 2

Theme groups	Competition		Number of projects		Number of applications	
	2009	2010	2009	2010	2009	2010
141 General biology and genetics	2.4	7.8	12	4	29	31
142 Physico-chemical biology	2.6	6.2	12	5	31	31
143 Fundamental medicine	4.9	5.5	19	14	94	77
201 Biocatalytic technology	4.5	11.5	4	2	18	23
202 Biomedical protection technologies	9.0	9.3	20	14	179	130
203 Genomic technology	5.0	10.3	3	4	15	41
204 Cellular technology	5.0		3	-	15	-
205 Bioengineering	3,3		4	-	13	-
206 Bioinformatic technology	7,0		2	-	14	-
209 Creation of biocompatible materials	4,3		3	-	13	-
Average \ Amount	5.1	7.7	82	43	421	333

by the authors of the FTP project during its development.

Table 2 shows the distribution of applications and contracts between fields in the section of Living Systems.

Data on the affiliation of the winning organizations are also of some interest. If it were not for the flaws of the law on governmental purchases, these data could be considered to be a realistic rating of Life Sciences centers affiliated with various agencies. However, the current data are not as valuable as that.

Notably, MSU, which won 7 ESC grants in 2009, won only one in 2010.

Nevertheless, this university is still the leader in the number of ESCs among all participating organizations.

Table 4 shows the 15 most active participants in the ESC grant competition in the field of Living Systems in 2009-2010.

As we can see, 11 of the 15 organizations which applied for more than 8 grants are higher educational institutions. However, the success ratio (which indirectly reflects the quality and scientific level of the presented projects) is higher for research institutes of the Biology Division of RAS as

compared to universities, research institutes of the other RAS divisions and other agencies. The RAS Institute of Molecular Biology and RAS Institute of Gene Biology won two grants each after having applied for three each. Identical results (2 contracts per 3 applications) were also obtained by other acknowledged biological centers: The Pushkino State University, Research Institute of Physico-Chemical Medicine, and others.

In conclusion, we list the organizations with the most funding for their contracts according to the results of the completed competitions in 2010 (Table 5):

Table 3.

Higher educational facilities of the Ministry of Education (RosObr)	42
RAS	38
RAMS	18
Higher educational facilities of the Ministry of Health and institutions of its agencies	16
Lomonosov MSU	8
Russian Academy of Agricultural and Livestock Sciences	1
Ministry of Agriculture and Livestock	1
Others (Karpov Scientific Research Institute of Physical Chemistry)	1
Overall	125
* The listed numbers are the number of supported ESC applications, not the number of winning organizations	

Table 4.

Organization	Number of applications	Number of contracts
Novosibirsk State University	11	3
South Federal University	10	1
Immanuel Kant Russian Governmental University	10	1
RAS Institute of Theoretical and Experimental Biophysics	9	2
Peoples Friendship University of Russia	9	2
Siberian State Medical University of the Federal Health and Social Development Agency	9	3
Tomsk State University	9	1
Saint-Petersburg State Polytechnical University	8	0
Saint-Petersburg State University	8	2
RAMS Cardiology Research instate of the Siberian branch of RAMS	8	1
RAS institute of chemical biology and fundamental medicine of the Siberian Branch of RAS	8	3
National nuclear research university of the Moscow Engineering and Physics Institute	8	1
Department of Biology of the M.V. Lomonosov Moscow State University	8	1
RAS Institute of Molecular Genetics	8	3
N.G. Chernishevsky Saratov State University	8	2

Table 5.

Organization	Project	Size of contract (in millions of rubles).
Research Institute of Physico-Chemical Medicine of the Federal Medicobiological agency	Study of the paracrine mechanisms behind the effect of mesenchymal stem cells on the regeneration of tissues using proteome analysis	12.5
Research Institute of Urology of the Federal Agency for Highly Technological Medical Assistance	Development of a comprehensive diagnostic and metric system for studying the functional activity of the higher and lower urinary ducts	12.0
Moscow Energetic Institute (Technical University)	Study of the condition and evolutionary change of biological objects using remote laser diagnostics	11.0
K.I. Skryabin Moscow State Academy of Veterinary Medicine and Biotechnology	Development of innovational diagnostic methods using animal physiology and biochemistry as a model for medical use	10.8
Department of Chemistry of the M.V. Lomonosov Moscow State University	Development of a method for the molecular monitoring of the spread of viral infections and for determining the effectiveness of antiviral compounds in order to create the next generation of therapeutic drugs	10.8

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