Postgraduate Training Network in Biotechnology of Neurosciences (BioN)

Grant holder/Coordinator
University of Helsinki
Faculty of Biosciences

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Finnish Graduate School of Neuroscience (FGSN)
EU PARTNERS

1. University of Helsinki, Finland
2. Umeå University, Sweden
3. Medical Research Council, Cambridge, UK
4. Italian Institute of Technology, Genova, Italy
5. Ecole Normale Supérieure de Paris, France

+ 3 Individual Experts in EU Institutes:
   Vasily Klutcharev
   Ivan Pavlov
   Elena Kushnerenko

RUSSIAN PARTNERS

1. University of St. Petersburg
2. Nizhny Novgorod State University
3. Southern Federal University
4. Lomonosov Moscow State University
5. Ioffe Physico-Technical Institute, St. Petersburg
6. St. Petersburg Academic University – Nanotechnology Research and Education Centre RAS
7. BS Soft, St. Petersburg
8. Association of Classical Universities
9. Institute of Higher Nervous Activity and Neurophysiology
10. Moscow State University of Psychology and Education
Main goal of the BioN is to establish the first Russian Nationwide Postgraduate Training Network with a focus on biotechnology of neurosciences.
Tempus proposal

National priority in Russia: Biotechnology/neuroscience

Aims:
• Creating a network of postgraduate training programs in Russia, using the Finnish Graduate School of Neuroscience as a model
• Developing biotechnology/neuroscience in Russia
• Strengthening the interdisciplinary biotechnology/neuroscience community among Russian and European members
• Model for other future (PhD) networks
Modernization of postgraduate education in Russia

- Introduction of the 3rd level of education / Bologna process
- European Credit Transfer System (ECTS) into postgraduate education
- English courses for students & teachers
- Postgraduate courses in biotechnology/neuroscience (in English)
- PhD thesis: Common standards and practices to improve the quality control of postgraduate training

Increasing national and international networking/collaboration in education and research:

- Facilitating national and international information exchange and promoting coordinated activities
- Website (courses, materials, library)
- Students’ meetings
- Students’ and teachers’ mobility/practical training
Management:

• Managing coordinator (Finland) + administrative coordinator (Russia)
• Executive board (ideas, suggestions, guidelines)
• Management board (decision-making)
• Student board (feedback, participation in decision-making)
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- **Scientific Advisory Board (evaluation, recommendations)**

Prof. Konstantin Anokhin, Research Institute of Normal Physiology of Russian Academy of Science (RAS), Moscow
Prof. Pavel Balaban, Institute of Higher Nervous Activity and Neurophysiology of RAS, Moscow
Prof. Igor Goryanin, BioMed Cluster, Skolkovo Foundation
Prof. Edwin Zvartau, Pavlov Saint Petersburg State Medical University

**Sustainability:** long-term impact and effect on Russian postgraduate education by program quality, networking, effective administration and accreditation by Russian Authorities
“Biotechnology of neuroscience means a broad scope of brain technologies based on multidisciplinary developments that extend across different fields of the physical, computational and biomedical sciences and cover different levels of brain functions, from the genetic to the cognitive”
Neurobiological (parallel) processing
Astonishing number of processing units
Conscious processing is serial - mechanisms underlying cognitive processes?
1) BioN is the first organized and internationally recognized doctoral program in Russian biotechnology and neuroscience.
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   - The major part of the teaching material is in English.
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   - Resources: nationwide integration
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3) **BioN will act as an effective link for doctoral trainees and senior researchers to foreign, internationally recognized institutes and laboratories.** Highly motivated ex-patriots working abroad act as a valuable channel for promoting the return of established neuroscientists back to Russian institutes (see “Russian science: What the scientists say.” *Nature* 449, 528-530; 2007; and Fursenko A.: “Russia woos lost scientists.” *Nature* 465, 858; 2010).
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4) **BioN will establish tight interactions and collaborations with Russian R & D and industry.** Promoting science and technology as an effective way to modernize Russian economy and society in general. BioN should explore possibilities to contribute to these activities.
   - E.g., the Skolkovo project will most likely involve neuroscience among other disciplines.
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5) BioN will have societal functions - promotion of general awareness of neuroscience in the Russian society. BioN will devote maximum attention to societal functions which are becoming increasingly vital in all modern, educated and technology-driven countries.
Спасибо!