

Joint Institute for Nuclear Research



**MODERN PROBLEMS OF GENETICS,
RADIOBIOLOGY, RADIOECOLOGY
AND EVOLUTION**

*The Second International Conference
dedicated to the 105th anniversary of the birth
of N. W. Timofeeff-Ressovsky and the 70th anniversary
of the paper «On the Nature
of Gene Mutations and Gene Structure»
by N. W. Timofeeff-Ressovsky, K. G. Zimmer,
and M. Delbrück*

Yerevan, September 8–11, 2005

ABSTRACTS, PAPERS BY YOUNG SCIENTISTS

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Современные проблемы генетики, радиобиологии, радиоэкологии и эволюции: Вторая междунар. конф., посвященная 105-й годовщине со дня рождения Н. В. Тимофеева-Ресовского и 70-летию публикации статьи Н. В. Тимофеева-Ресовского, К. Циммера и М. Дельбрюка «О природе генных мутаций и структуре гена» (Ереван, 8–11 сентября 2005 г.): Аннот. докл. и статьи молодых ученых. — Дубна: ОИЯИ, 2005. — 318 с.

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Сборник содержит аннотации докладов, представленных на конференцию, а также короткие исследовательские статьи, включенные в конкурс молодых ученых в рамках конференции.

Издание представляет интерес для специалистов в области генетики, радиобиологии, радиоэкологии и эволюции.

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OBNINSK PERIOD IN N.V. TIMOFEEFF-RESSOVSKY'S SCIENTIFIC RESEARCH

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N.V. Timofeeff-Ressovsky worked in Obninsk during 1964-1969 being a Head of radiobiological and genetic department in Research Institute of Medical Radiology of RAMS (now Medical Radiological Research Center). It was a very fruitful period of his scientific work. In 1965 he was awarded the Mendel prize and medal of Czechoslovak Academy of Sciences, the Kimber prize for genetic research (USA). In 1966 he has been elected an honorary member of the British Genetic Society in Leeds. During Obninsk period of N.V. Timofeeff-Ressovsky's scientific research a great attention was devoted to the mechanism of cell radiation effects, regulatory systems, cell recovery from damages inflicted by UV light and ionizing radiation. He was a leadership on the basic problems of radiation biology, radiation genetics, population genetics, experimental and theoretical ecology. In Obninsk N.V. Timofeeff-Ressovsky got back to the classical problems that have been developed by him earlier - theory of evolution and population biology. As a result, more modern presentations of these problems were established which have been described in several books: one of them was published together with N.N. Vorontzov and A.V. Yablokov, another with A.V. Yablokov and N.V. Glotov. The development of genetic and radiobiological scientific directions has been reflected in the book "Application of Hit Principle in Radiobiology" published together with V.I. Ivanov and V.I. Korogodin as well as in the book "Introduction in Molecular Radiobiology" published together with A.V. Savich and M.I. Shalnov. The principal place in N.V. Timofeeff-Ressovsky's personal scientific research in Obninsk was occupied by the global problem "Biosphere and mankind", his thoughts related with the future fate of the live and inert matter of our planet and with the place and perspectives of mankind on the Earth. His conclusion was close to V.I. Vernadsky's idea about the role of living matter in the migration of chemical elements in the earth. Other important aspects of this problem were the analysis of biological effects produced by radioactive nuclides on ecological systems and development of different means for purification of land and water areas contaminated with radioactive materials. These ideas have been used practically for reducing the consequences of radiation accident in Chernobyl.