

# PRIZES AND GRANTS

The **2007 G. Flerov Prize** in nuclear physics was awarded to Academician B. Myasoedov (Russia), Professors M. Ussenois (France) and S. Dmitriev (JINR) for the cycle «Radiochemical Research in Heavy ion Physics» during the celebrations of the 50th anniversary of the Flerov Laboratory of Nuclear Reactions.

The **2007 B. Pontecorvo Prize** was awarded to Professor A. Zichichi (INFN, Bologna, and CERN) for his fundamental contributions to the creation of the largest underground Gran Sasso National Laboratory and to the construction of large-scale facilities for experimental studies of solar and accelerator neutrinos.

## PRIZEWINNERS OF JINR'S ANNUAL COMPETITION FOR BEST RESEARCH

### I. Theoretical Physics Research

#### *First Prize*

«Investigation of the Electronic Structure of Various Shaped Carbon Nanoparticles».

*Authors:* V. Osipov, E. Kochetov, M. Pudlak, R. Pincak, D. Kolesnikov.

#### *Second Prize*

«Sub-Barrier Fusion of Neutron-Rich Nuclei and Its Astrophysical Consequences».

*Authors:* V. Zagrebaev, V. Samarin.

### II. Experimental Physics Research

#### *First Prize*

«Chemical Identification and Study of Properties of Elements 112 and 114».

*Authors:* S. Dmitriev, N. Aksenov, G. Bozhikov, G. Vostokin, A. Yerebin, V. Lebedev, E. Tereshatov, S. Shishkin, H. Gäggeler, R. Eichler.

#### *Second Prizes*

1. «Study of the Nucleon Spin Structure in the COMPASS and HERMES Experiments».

*Authors:* V. Alexakhin, N. Akopov, O. Ivanov, A. Korzenev, V. Krivokhizhin, A. Nagaytsev, D. Peshekhonov, I. Savin, O. Shevchenko, E. Zemlyanichkina.

2. «Observation of Anomaly in the Distribution of Invariant Mass of Two Neutral Pions from Three-Pion Decays of Charged Kaons and the Measurement of Pion Scattering Lengths».

*Authors:* S. Balev, O. Voskresenskaya, S. Gevorgyan, E. Goudzovski, V. Kekelidze, D. Madigozhin, Yu. Potrebenikov, A. Tarasov, P. L. Frabetti.

### III. Physics Instruments and Methods

#### *First Prize*

«Reflectometry of Polarized Neutrons at the IBR-2 Pulsed Reactor».

*Authors:* V. Aksenov, V. Bodnarchuk, Ye. Dokukin, V. Ignatovich, S. Kozhevnikov, D. Korneev, V. Lauter, K. Zhernenkov, Yu. Nikitenko, A. Petrenko.

#### *Second Prizes*

1. «The IHEP–JINR Neutrino Detector at Neutrino Beams of the U-70 Accelerator (Protvino)».

*Authors:* S. Bunyatov, I. Golutvin, D. Kiss, A. Krasnoperov, Yu. Nefedov, B. Popov, V. Snyatkov, V. Terechshenko, A. Vovenko, M. Walter.

2. «Combined Detection System GABRIELA in the Focal Plane of the Separator VASSILISSA. Detection of  $\alpha$ ,  $\beta$ , and  $\gamma$  Decays of Transfermium Elements».

*Authors:* A. Belozerov, O. Dorvaux, A. Yerebin, A. Kabachenko, A. Lopez-Martens, O. Malyshev, A. Popko, A. Svirikhin, V. Chepigina, A. Shutov.

## IV. Applied Physics Research

### First Prizes

1. «Development and Realization of the Technique of 3D Conformal Proton Radiotherapy with JINR Phasotron Beams».

*Authors:* A. Agapov, Yu. Budyashov, E. Cherevatenko, V. Gaevsky, E. Luchin, A. Molokanov, M. Mumot, G. Mitsyn, M. Tseytina, S. Shvidky.

2. «The DC-60 Cyclotron Complex of Heavy Ions for Applied Research and Industrial Applications in Nanotechnologies».

*Authors:* B. Gikal, G. Gulbekian, S. Dmitriev, M. Itkis, I. Kalagin, I. Kolesov, S. Pashchenko, A. Borisenko, K. Kadyrzhanov, A. Tuleushev.

### Second Prize

«Application of Neutron, X-ray and Acoustic Investigations of Geological Materials and Industrial Wastes in Ecology».

*Authors:* R. Vasin, E. Ermakova, T. Ivankina, H. Kern, A. Kulakovsky, D. Levin, A. Nikitin.

## Encouraging Prizes

1. «First Observation of Parametric X-ray Radiation from Relativistic Nuclei in Crystals».

*Authors:* S. Afanasiev, A. Kovalenko, Sh. Saifulin, A. Taratin, Yu. Pivovarov, A. Potylitsyn, S. Uglov, V. Zabaev, V. Boiko, Yu. Efremov.

2. «Phenomena in Near-Surface Layers of Semiconductors: Theoretical and Methodological Aspect, Models, Parameterization, Basis of a Critical Analysis».

*Authors:* Yu. Tsyganov, V. Kushniruk, V. Subbotin, A. Polyakov, A. Sukhov, A. Voinov.

3. «Development and Construction of Low-Mass Drift Chambers, Front-End Electronics and Tracking Software for the HADES Spectrometer».

*Authors:* G. Agakichiev, S. Chernenko, O. Fateev, L. Glonti, A. Ierusalimov, C. Müntz, V. Pechenov, L. Smykov, J. Stroth, Yu. Zanevsky.

4. «Spectral Control of Quantum Systems in the Inverse Problem Approach».

*Authors:* B. Zakhariiev, V. Chabanov.

## GRANTS

In 2007, staff members of the Joint Institute for Nuclear Research received financial support rendered by the international foundations of the International Scientific and Technical Centre (ISTC), the International Association for the Promotion of Cooperation with Scientists from the Independent States of the Former Soviet Union (INTAS), as well as by the Russian Foundation for Basic Research (RFBR) and the RF Ministry of Education and Science's Funds to implement their proposals.

The Russian Foundation for Basic Research financed 59 projects in the competition «Ambitious Scientific Projects», 1 project in the competition «Projects of the Development of the Material and Technical Base for Scientific Research», 4 projects in the contests «Publication Projects» and «Express Publication Projects», 1 project in the competition «Scientific Research Conducted by Young Russian Scientists in Leading RF Scientific Organizations».

RFBR, together with the National Scientific Research Society of Germany, financed 9 projects, together with the Ministry of Flanders — 1 project, together with the Belarussian Republican Foundation for

Basic Research — 5 projects, together with the Academy of Sciences of Moldova — 1 project, together with the Academy of Sciences of Romania — 1 project, together with the Academy of Sciences and Technologies of Vietnam — 1 project, together with the State Foundation of Natural Sciences of China — 1 project.

RFBR rendered financial support to JINR in holding 14 scientific conferences in the framework of the contests «Organization of All-Russian and International Scientific Conferences in the Territory of Russia» and «Express Organization of All-Russian and International Scientific Conferences in the Territory of Russia». Twenty-eight JINR staff members received financial support to take part in scientific conferences abroad in the framework of the contest «Participation of Russian Scientists in International Events Abroad».

In the context of the Programme of the State Support for Young Russian Scientists and Leading Scientific Schools, the Institute obtained 4 grants of the President of the Russian Federation; among them 3 grants for scientific schools and 1 grant for young Russian scientists.