

# ACTIVITIES OF JINR GOVERNING AND ADVISORY BODIES

## SESSIONS OF THE JINR COMMITTEE OF PLENIPOTENTIARIES

**A regular session of the Committee of Plenipotentiaries of the Governments of the JINR Member States was held in Dubna on 22–23 March.**

The Plenipotentiary of the Government of Mongolia to JINR, S. Enkhbat, was elected Chairman of the Committee of Plenipotentiaries till the next session.

The Committee of Plenipotentiaries (CP) took note of the report, presented by JINR Director A. Sissakian, «Implementation of the Recommendations of the JINR Scientific Council and of the Decisions of the JINR Committee of Plenipotentiaries Concerning JINR's Activity in 2006; Plans of the Institute for 2007».

The CP approved the activity of the Institute Directorate on the implementation of the JINR Plan of Research and International Cooperation in 2006, on the realization of collaborative research programmes with the Member States, as well as the efforts towards widening the circle of the Institute's scientific partners. It highly appreciated the fruitful work of the Directorate on the involvement of new countries into the JINR orbit, in particular, the Republic of South Africa, as well as the progress achieved in the preparation of an agreement about associate membership of the Republic of Serbia. The CP commissioned the JINR Directorate to take necessary steps for resolving, at the level of the leadership of the People's Republic of China (PRC), the issue of the restoration of the membership in JINR of the PRC, one of the founding countries of JINR.

The CP recognized the efforts of the JINR Directorate aimed at optimizing the scientific programme of the Institute in line with the road map of its strategic development, as well as the significant achievements of JINR scientists in 2006 in the fields of particle physics, nuclear physics, and condensed matter physics. Specifically:

- the creation of a conceptual project for the future development of the Nuclotron accelerator complex, aimed at the search of the mixed phase and

critical phenomena in strongly interacting matter (NICA project);

- the measurement of the charge asymmetry parameter  $A_g$  in decays of charged kaons into three charged pions, as well as of the same parameter in decays of charged kaons into one charged and two neutral pions in the NA48/2 experiment (CERN, SPS), with the key contribution made by JINR scientists;
- the first measurements of the chemical properties of element 112 at the Flerov Laboratory of Nuclear Reactions in collaboration with the P. Scherrer Institute (Villigen), the University of Bern, and the Institute of Electron Technology (Warsaw);
- the progress of investigations on the search of neutrinoless double-beta decay (NEMO-3 project);
- a number of original results obtained in experiments at the IBR-2 reactor on neutron diffraction studies of the properties of magnetic structures under high pressure;
- further studies of the origin of clustered DNA damages within the radiobiology research programme;
- the development, based on the JINR CICC, of a Grid infrastructure as a component of the worldwide Grid infrastructure under the EGEE/LCG projects;
- the establishment of training laboratories at the University Centre as a new element of its structure.

The CP noted the successful operation of the JINR basic facilities, as well as the progress in their development and upgrade, in particular, the results achieved in the DRIBs and IREN projects and the ongoing modernization of the IBR-2 reactor. The CP was pleased to note that, after having been refurbished, the Phasotron

had restarted its operation, which is especially important for the hadron therapy programme.

The CP noted the successful participation of JINR in the development of the International Linear Collider (ILC) project and welcomed the decision of the ILC Global Design Effort (GDE) to recognize JINR, along with four other candidates, as an official candidate for a possible hosting of the ILC complex.

The CP approved the activity of the Institute Directorate related to its participation in the establishment of a special economic zone in Dubna by promoting the creation of an «innovation belt» around JINR.

The CP considered a proposal by JINR Director A. Sissakian concerning changes to the membership of the JINR Scientific Council. The CP accepted the resignation of Professor Gerrit van Middelkoop of the National Institute for Nuclear and High Energy Physics — NIKHEF (Amsterdam, The Netherlands) and thanked him for his long and successful work as member of the Scientific Council. The CP appointed Professor Michel Spiro, director of the National Institute for Nuclear and High Energy Physics — IN2P3 (Paris, France), as a new member of the JINR Scientific Council. The CP noted that due to the impending completion of the term of duties of the current members of the Scientific Council, the election of the new membership is planned to be held at the CP session in March 2008.

Based on the report by JINR Assistant Director for Financial and Economic Issues V. Katrasev «On the Execution of the JINR Budget in 2006, on the Draft Budget for 2007, on the Budget Forecast for the Years 2008–2010, and on the Draft of the Member States' Contributions for 2008», the CP took note of the information on the execution of the JINR budget in 2006: in expenditure — US\$41 559.3 thousand and in income — US\$39 851.9 thousand.

The CP approved the budget for 2007 with the total expenditure amounting to US\$46.127 million, as well as the sums of the Member States' contributions for 2007.

The CP set the estimate of the JINR budget for 2008 in income and expenditure to US\$55.98 million and adopted the provisional sums of the Member States' contributions and of debt payments for 2008.

Considering the importance of implementing the strategic plan of JINR's development, the CP recommended that the future assessment of the contributions by the Governments of the Member States should be oriented to the forecast, calculated by the JINR Directorate, for the budgets with the total expenditure amounting to US\$68.9 million in 2009 and to US\$85.0 million in 2010.

The CP allowed the host country of the Institute to pay up to 90% of its contribution in the national currency.

The CP commissioned the Working Group for financial issues of JINR under the CP Chairman to prepare proposals for amendments to the «Programme of Debt

Restructuring and Reforming the System of Calculation and Payment of the Member States' Contributions for 2004–2010», concerning the amounts of annual increase of the JINR budget and of the Member States' contributions, and to submit them for consideration to the Finance Committee and to the Committee of Plenipotentiaries in November 2007.

The CP took note of the Directorate's information about the sale of the worn-out building of JINR's boilerhouse, located in Dubna at 14, Molodezhnaya St., which was made in accordance with The Financial Regulations of JINR (Articles 11.1. and 8.3). The proceeds from the sale of this object should be reflected in updating the JINR budget for 2007.

The CP approved the agreement, dated 4 December 2006, between the JINR Directorate and the Plenipotentiary of the Government of the Republic of Azerbaijan to JINR concerning the restructuring of the debt in accordance with the decision of the Committee of Plenipotentiaries (Protocol of the CP session held on 18–19 March 2004) and agreed with the proposed scheme of payments of the restructured debt by the Government of the Republic of Azerbaijan.

The CP granted JINR's Director the power to attract investments for the development of the Institute's engineering and social infrastructure, with the observance of procedures stipulated by The Financial Regulations of JINR.

The Committee resolved to hold its sessions two times a year to allow for approval of the Institute's budget before the beginning of fiscal year, changing accordingly the schedule of meetings of the Finance Committee, the Scientific Council and of the Programme Advisory Committees.

The CP amended The Financial Regulations of JINR by adopting the following wording for Article 3.1.: «The Director of the Institute submits, until 15 October, to the Plenipotentiaries of the Governments of the Member States the draft budget for the next fiscal year».

Based on the report presented by the Chairman of the JINR Finance Committee, A. Volodin, on the results of the Finance Committee meeting held on 21–22 February 2007, the CP approved the Protocol of this meeting and the report presented by the Directorate on the execution of the JINR budget in 2005: in expenditure — US\$38 662.1 thousand, with the summary account as of 1 January 2006 being US\$276 247.0 thousand.

Based on the report by the JINR Assistant Director for Financial and Economic Issues, V. Katrasev, on the audit results of the Institute's financial activity during 2005, the CP approved the auditors' conclusion for 2005. It also extended for another year the powers of the MS-Audit company, registered in Dubna, to examine the Institute's financial activity in 2006.

Based on the report «JINR's Innovation Activity: Tasks for 2007», presented by the Assistant to the JINR

Director for Innovative Development, A. Ruzaev, the CP supported the plans of the Institute Directorate for the development of innovation activity in 2007 and for the participation in the establishment of a special economic zone in Dubna.

The CP allowed the Institute Director, based on the JINR Charter (Chapter VII, Article 31) and the Protocol of the CP session held on 17–18 March 2005 (Section V), to decide about JINR's participation in the creation of innovative enterprises, subject to subsequent notification of the Plenipotentiaries.

The CP thanked Professor V. Kekelidze, director of the Veksler and Baldin Laboratory of High Energies, for his interesting and informative scientific report «Development of Accelerator Complex for High-Energy Heavy-Ion Physics (Nuclotron + NICA)».

**A regular session of the Committee of Plenipotentiaries of the Governments of the JINR Member States was held in Dubna on 27–28 November. It was chaired by the Plenipotentiary of the Government of Mongolia to JINR, S. Enkhbat.**

The Committee of Plenipotentiaries took note of the report «Activity of JINR in 2007 and Main Directions of the Institute's Strategic Development» presented by JINR Director A. Sissakian. The CP noted the successful advancing in 2007 of the fundamental research activities in the main scientific directions of the Institute: particle physics, nuclear physics, and condensed matter physics, as well as in information technology, innovative developments, and educational activities.

The CP resolved:

- to regard as extremely important those provisions of the road map of JINR's strategic development which concern the upgrade and development of the home facilities — the Nuclotron-M, the IBR-2M reactor, and the cyclotron complex of the Flerov Laboratory of Nuclear Reactions (the DRIBs II project), as well as the programme for the NICA/MPD facility. To approve the proposal of the Institute Directorate to make changes to the structure of JINR in view of the plans for the upgrade of the Nuclotron accelerator complex and for the construction of the NICA facility. In order to concentrate the human and financial resources on the implementation of this priority programme of JINR, to establish the Veksler and Baldin Laboratory of High Energy Physics, excluding from the Institute structure the Veksler and Baldin Laboratory of High Energies and the Laboratory of Particle Physics;
- to support the actions aimed at effective participation of scientists from the Member States in large international projects, afforded by modern computing and enhanced telecommunication infrastructure, during their work in Dubna;
- to approve the recommendations of the Scientific Council's 102nd session and the JINR Topical

Plan of Research and International Cooperation for 2008;

- to welcome the emphasis on the development of basic and applied research in the field of nanoobjects and nanotechnologies, taking into account the relevance and today's great demand for such new technologies. Activities in this priority field will be based on the unique capabilities of the JINR facilities — the heavy-ion accelerator complex and the IBR-2M neutron source, around which a world-class research infrastructure will be built;
- to support the proposal of the Institute Directorate concerning the establishment, with JINR's participation, of an Interstate Nanotechnology Centre of the Member States and to commission the Directorate to send the corresponding documents to the Government of the Russian Federation;
- to support the efforts by the Directorate to attract additional resources for financing the Institute. To recommend that the JINR Directorate take an active part in the realization of the Federal Target Programme «R&D in Priority Directions of the Development of the Science and Technology Complex in Russia for the Years 2007–2012», as well as in the involvement of partners from countries of the European Union (EU) for joint participation in the EU Seventh Framework Programme for Research and Technological Development (2007–2013).

Based on the report «Draft Budget of JINR for the Year 2008 and Draft Contributions of the Member States for the Years 2009–2010» presented by V. Katrasev, assistant director of JINR for financial and economic issues, the Committee of Plenipotentiaries approved the amendments to «The Programme for Restructuring the Arrears and for Reforming the System of Calculation and Payment of Contributions of the JINR Member States for the Years 2004–2010», proposed by the JINR Directorate and the Working Group under the CP Chairman, and the JINR budget for the year 2008 with the total expenditure amounting to US\$55.968 million, as well as the contributions of the Member States for the year 2008.

The CP determined the volume of the JINR budget for the year 2009 in income and expenditure amounting to US\$68.41 million and adopted the provisional sums of the Member States' contributions and of arrears payments for the years 2009 and 2010.

The CP commissioned the JINR Directorate and the Working Group for financial issues of JINR under the CP Chairman to prepare proposals for determining the volume of the Institute budget for the year 2011 and for further improving the principles and methods of calculation of the Member States' contributions to the JINR budget after the year 2010. In developing the methodology of calculation of the Member States' contributions, account must be taken of the arrears in the payment of

# GOVERNING AND ADVISORY BODIES OF THE JOINT INSTITUTE FOR NUCLEAR RESEARCH

## COMMITTEE OF PLENIPOTENTIARIES OF THE JINR MEMBER STATES

Armenia	H. A. Vartapetian	Moldova	J. Tiginianu
Azerbaijan	M. Kerimov	Mongolia	S. Enkhbat
Belarus	V. I. Nedilko	Poland	Z. Popowicz
Bulgaria	S. Tsochev	Romania	N. V. Zamfir
Cuba	J. L. Fernández Chamero	Russia	A. A. Fursenko
Czech Republic	R. Mach	Slovak Republic	S. Dubnička
Georgia	A. N. Tavkhelidze	Ukraine	V. S. Stognii
Kazakhstan	K. K. Kadyrzhanov	Uzbekistan	B. S. Yuldashev
D. P. Republic of Korea	Li Je Sen	Vietnam	Nguyen Van Hieu

## Finance Committee

One delegate  
from each Member State

## SCIENTIFIC COUNCIL

**Chairman: A. N. Sissakian**

**Co-Chairman: I. Wilhelm (Czech Republic)**

**Scientific Secretary: N. A. Russakovich**

I. Antoniou	Greece	M. V. Kovalchuk	Russia	G. Piragino	Italy
A. Antonov	Bulgaria	F. Lehar	France	S. K. Rakhmanov	Belarus
Ts. Baatar	Mongolia	A. A. Logunov	Russia	J. Ružička	Slovak Republic
A. Budzanowski	Poland	F. Guzmán Martínez	Cuba	V. Sahni	India
M. Budzynski	Poland	M. Mateev	Bulgaria	Š. Šaro	Slovak Republic
Gh. Căta-Daniil	Romania	V. A. Matveev	Russia	N. M. Shumeiko	Belarus
A. Duisebayev	Kazakhstan	R. Mir-Kasimov	Azerbaijan	A. N. Skrinsky	Russia
J. Ellis	Switzerland	T. M. Muminov	Uzbekistan	R. Sosnowski	Poland
Chen Hesheng	China	Yu. Musakhanov	Uzbekistan	P. Spillantini	Italy
A. Hryniewicz	Poland	D. L. Nagy	Hungary	M. Spiro	France
Hwan Sok Hwa	D. P. Republic of Korea	Nguyen Manh Shat	Vietnam	Gh. Stratan	Romania
J. Janik	Poland	Nguyen Van Hieu	Vietnam	A. N. Tavkhelidze	Georgia
V. G. Kadyshesky	Russia	V. N. Okolovich	Kazakhstan	H. A. Vartapetian	Armenia
V. G. Kantser	Moldova	Yu. A. Osipian	Russia	A. Wagner	Germany
N. S. Kazak	Belarus	B. Peyaud	France	I. Wilhelm	Czech Republic
G. Khuukhenkhoo	Mongolia			G. M. Zinoviev	Ukraine

### Programme Advisory Committee for Particle Physics

Chairperson: T. Hallman (USA)  
Scientific Secretary: Yu. A. Gornushkin

### Programme Advisory Committee for Nuclear Physics

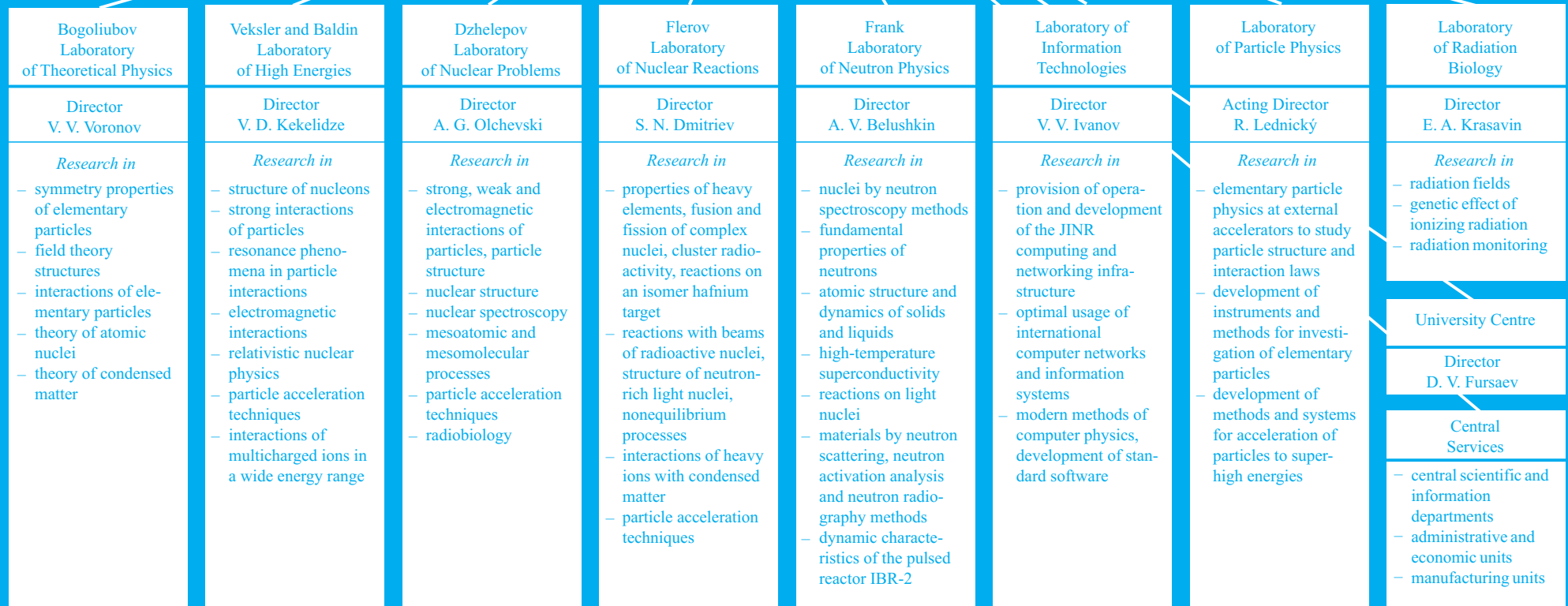
Chairperson: W. Greiner (Germany)  
Scientific Secretary: N. K. Skobelev

### Programme Advisory Committee for Condensed Matter Physics

Chairperson: W. Nawrocik (Poland)  
Scientific Secretary: S. I. Tyutyunnikov

# INTERNAL ORGANIZATION OF THE JOINT INSTITUTE FOR NUCLEAR RESEARCH

**DIRECTORATE**  
**Director A. N. Sissakian**  
**Vice-Director M. G. Itkis**  
**Vice-Director R. Lednický**  
**Chief Scientific Secretary N. A. Russakovich**  
**Chief Engineer G. D. Shirkov**



contributions which occurred during 2002–2003 and the risks occurring due to the fluctuations of Member States' currencies to the US dollar.

The CP acknowledged the progress in implementing the agreements on the payments of the restructured arrears by the Republic of Armenia, Georgia, and the Republic of Azerbaijan.

The CP approved the Aide-Memoir, signed on 20 April 2007 between the JINR Directorate and the Ministry of Science, Technology and Environment of the Republic of Cuba, on the renewal of the real participation of the Republic of Cuba in JINR's activities, and agreed with the necessity of canceling the arrears in the payment of contributions by the Republic of Cuba to the JINR budget over a period from 1992 to 2007.

With a view to attracting investments for the development of the Institute's experimental equipment production capability, the CP allowed JINR to participate in establishing a limited liability company, together with the joint-stock company «Aspekt Research and Production Centre», contributing to the statutory capital a share of fixed property of the Institute.

Based on the report «Results of the Meeting of the JINR Finance Committee Held on 23–24 November 2007» presented by J. Khubua, member of the Finance Committee, the Committee of Plenipotentiaries approved the Protocol of this meeting.

## SESSIONS OF THE JINR SCIENTIFIC COUNCIL

**The 101st session of the JINR Scientific Council, chaired by JINR Director A. Sissakian, took place in Dubna on 18–19 January.**

At the session, Professor A. Sissakian presented a report on the implementation of the recommendations made at the 99th and 100th sessions of the JINR Scientific Council and on the main directions of JINR's strategic development. The results of the Institute's activity in 2006 were presented in the reports by the Directors of the JINR Laboratories and UC.

JINR Vice-Directors M. Itkis and R. Lednický presented «The JINR Topical Plan of Research and International Cooperation for 2007», which was developed by the Directorate in line with the main provisions of the JINR road map.

The recommendations of the Programme Advisory Committees were reported by the Chairpersons T. Hallman (PAC for Particle Physics), N. Janeva (PAC for Nuclear Physics), and W. Nawrocik (PAC for Condensed Matter Physics). Vice-Director M. Itkis presented proposals concerning the memberships of the PACs.

Vice-Director R. Lednický informed the Council about the Jury's recommendations on the JINR prizes

Concerning the report «Progress of Activities Related to the Establishment of the Dubna Special Economic Zone» presented by P. Overchuk, deputy head of the Russian Federal Agency for Management of Special Economic Zones (RosSEZ), the Committee of Plenipotentiaries took note of this information and welcomed the plans of the RosSEZ for the accelerated development of the Dubna right-bank site of the Special Economic Zone, directly related to the activities of JINR.

The CP supported the activity of the Institute Directorate towards the establishment of an International Nanotechnology Cluster with the participation of JINR, scientific organizations and enterprises of Dubna and recommended that the Plenipotentiaries intensify efforts to attract innovation companies of the Institute Member States as residents of the Dubna SEZ.

The CP took note of the scientific report «Conceptual Project for Construction, Based on the JINR Nuclotron, of the NICA/MPD Facility» presented by G. Trubnikov, head of the Accelerator Division of the Veksler and Baldin Laboratory of High Energies, and commissioned the Directorate to prepare, based on the conceptual NICA/MPD project, the Technical Design Report during 2008–2009 and to accomplish work towards achieving the design parameters of the Nuclotron-M.

for 2006. The awarding of the 2006 B. Pontecorvo Prize took place at the session; the laureate, A. Suzuki (KEK, Japan), delivered a talk on the subject of his scientific research.

The session also included elections of the Directors of JINR Laboratories.

The Scientific Council was pleased to note that most of its recommendations to the JINR Directorate concerning the Scientific Programme of JINR, the operation and upgrade of the basic facilities, and the construction of new facilities are being implemented.

The Scientific Council highly appreciated the success of the XXXIII International Conference on High Energy Physics (Moscow, 26 July–2 August 2006), whose coorganizer was JINR.

The Scientific Council strongly supported the measures approved by the Directorate to increase the Institute budget for the implementation of the long-term development programme of JINR, which is justified by the interest of the scientific programme, and appreciated the decision of the JINR Directorate that a substantial increase of salaries will have high priority for the use of the increased JINR budget.

The Scientific Council also highly appreciated the fruitful work of the Directorate on the involvement of new countries, in particular, the Republic of South Africa, into the JINR orbit, and the new initiatives towards the restoration of the membership of the People's Republic of China at JINR.

The Scientific Council took note of the results of activity in 2006 presented in the reports by V. Voronov, deputy director of BLTP, A. Olchevski, director of DLNP, M. Itkis, director of FLNR, A. Belushkin, director of FLNP, V. Ivanov, director of LIT, A. Malakhov, director of VBLHE, V. Kekelidze, director of LPP, E. Krasavin, director-organizer of LRB, and D. Fursaev, director of the UC.

The Scientific Council endorsed «The JINR Topical Plan of Research and International Cooperation for 2007», presented by Vice-Directors M. Itkis and R. Lednický, which had been developed by the Directorate in line with the main provisions of the JINR road map and the recommendations of the PACs.

The Scientific Council welcomed the Directorate's intention to implement a new approach to the contents and template of the JINR Topical Plan of Research and International Cooperation. This approach, based on three-year planning, is intended to be fully consistent with the actual limitations of the JINR budget.

Considering that there are a large number of high-priority projects, the Scientific Council recommended that the Directorate clarify the procedure used in order to establish the priorities within the Laboratories so that strategic decisions are made transparent to the users.

The Scientific Council reiterated its recommendation that the University Centre should be given more financial support.

The Scientific Council concurred with the recommendations made by the PACs at their November 2006 meetings.

**Particle Physics Issues.** The Scientific Council endorsed the main lines of the JINR Programme of Particle and Relativistic Nuclear Physics Research for the period 2007–2009. The Scientific Council requested at its next session a presentation of the vision for future activities in these areas.

The Scientific Council noted the importance of experimental studies of the mixed phase of strongly interacting matter at the Nuclotron and concurred with the PAC that the scientific merit of this research is high.

The Scientific Council supported the PAC's recommendation concerning the preparation of the Nuclotron upgrade project. Recognizing the importance of this upgrade for the ongoing and future particle physics programme at JINR, the Scientific Council shared the PAC's recommendation on the creation of a project plan showing, in full detail, the cost and schedule for this project, as well as the resources available to carry it out. This plan should be reviewed by an independent international expert committee, charged with assessing

the robustness of the plan to successfully accomplish the planned upgrade.

The Scientific Council supported the PAC's recommendation to hear a report at its next meeting concerning the main areas of scientific activity at the FAIR facility that JINR plans to contribute to. It expressed a wish to hear a report from the Directorate, presenting a comprehensive plan for the JINR future activities in relativistic ion physics, including FAIR, the Nuclotron and NICA.

The Scientific Council supported the PAC's recommendation on plans for JINR's participation in technical R&D for the International Linear Collider project, and the PAC's recommendation on the new project «Preparation of Proposals for JINR's Participation in the Design, Manufacturing and Testing of the Linear Collider Element Prototypes».

**Nuclear Physics Issues.** The Scientific Council endorsed the main lines of the JINR Programme of Nuclear Physics Research for the period 2007–2009.

The Scientific Council was impressed by the results that had been achieved: discovery of new superheavy elements and investigation of their nuclear and chemical properties, studies of reactions induced by stable and radioactive ion beams, nuclear spectroscopy of heaviest isotopes, production and structure studies of exotic light radioactive nuclei.

Recognizing JINR's experience in extremely low-background physics, the Scientific Council reiterated its high estimate of the prominence of the scientific programme of fundamental interactions in nuclei (fundamental properties of electron (anti)neutrino, neutrinoless double-beta decay, dark matter), and the study of nucleus and particle interactions at intermediate energies (rare processes, nuclear reaction mechanisms).

The Scientific Council was pleased to hear that the construction of Phase I of the IREN facility is progressing on schedule and looks forward to the commissioning of IREN in late 2007. It would like to hear more about the scientific opportunities presented by Phase I of IREN.

The Scientific Council supported the PAC's conclusion about the high scientific and practical importance of the SAD project, and appreciated the strong efforts of the project's management to seek the adequate funding for the project, including negotiations with European partners and the Russian Federal Agency for Atomic Energy.

The Scientific Council requested for its next session a presentation of the vision for future activities in nuclear physics.

**Condensed Matter Physics Issues.** The Scientific Council endorsed the main lines of the JINR Programme of Condensed Matter Physics Research for the period 2007–2009.

The Scientific Council noted that the IBR-2 reactor, the main facility of JINR in the field of condensed

matter physics, completed its successful operation in December 2006, after approximately 50 thousand hours of operation. The construction of the IBR-2M — fundamentally a new reactor — has begun. The Scientific Council expects the JINR and FLNP Directorates to take all necessary measures to ensure the continuation of the work for the IBR-2 modernization, including the implementation of cold moderators, according to schedule.

The Scientific Council appreciated the well-structured plan for research at external neutron sources for the period of the IBR modernization, as well as of the development of upgrades for the spectrometers for the future IBR-2M reactor.

The Scientific Council expects JINR to set up a group of its own and external experts to carry out the ranking of the spectrometer upgrade projects taking into account the foreseen construction of the broad-band moderators and current trends in modern condensed matter physics.

The Scientific Council was pleased to note that, after being refurbished, the Phasotron was restored to operation. This is especially important for the hadron therapy programme. The Scientific Council shared the opinion expressed by the PAC that JINR has personnel and technique advantages in biomedical applications of ion-beam facilities. The Scientific Council reiterated the need for coordination of all activities in biomedical physics at JINR.

The Scientific Council noted that the agenda of the PAC's last two meetings included poster presentations by young scientists working in the fields of condensed matter physics, radiobiology, and life sciences. This aspect of the PAC's activity was appreciated.

The Scientific Council requested for its next session a presentation of the vision for future activities in condensed matter physics.

As proposed by the JINR Directorate, the Scientific Council appointed Professor W. Greiner (FIAS, Frankfurt on Main, Germany) as Chairperson of the PAC for Nuclear Physics, Professor E. Vardaci (University, Naples, Italy) as a new member of the PAC for Nuclear Physics, Professor E. Burzo (University, Cluj-Napoca, Romania) as a new member of the PAC for Condensed Matter Physics, and Professor L. Riccati (INFN, Turin, Italy) as a new member of the PAC for Particle Physics for a term of three years.

The Scientific Council approved the Jury's recommendations on the JINR prizes for 2006.

The Scientific Council congratulated Professor A. Suzuki (KEK, Japan) on being awarded the 2006 B. Pontecorvo Prize for the discovery of reactor antineutrino oscillations and the detection of geantineutrinos in the KamLAND experiment.

The Scientific Council elected by ballot V. Voronov as Director of the Bogoliubov Laboratory of Theoretical Physics, A. Belushkin as Director of the Frank Laboratory of Neutron Physics, V. Kekelidze as Director of the Veksler and Baldin Laboratory of High Energies,

and S. Dmitriev as Director of the Flerov Laboratory of Nuclear Reactions for a term of five years.

The Scientific Council announced vacancies of the Deputy Directors of BLTP, FLNP, VBLHE, and FLNR.

**The 102nd session of the JINR Scientific Council, chaired by JINR Director A. Sissakian and Professor of the Charles University in Prague I. Wilhelm, took place in Dubna on 27–28 September.**

At the session, Professor A. Sissakian reported on the implementation of the recommendations made at the 101st session of the Scientific Council and on the main directions of JINR's strategic development. Plans for execution of the primary tasks of JINR in accordance with its road map were presented by the Institute's Vice-Directors R. Lednický and M. Itkis.

The following progress reports on the current activities of the Institute were presented: «Modernization of the IBR-2 Reactor» by FLNP Director A. Belushkin, «Construction of Phase I of the IREN Facility» by FLNP Deputy Director V. Shvetsov, «Activity for the DRIBs Project» by FLNR Director S. Dmitriev, «Preparation of the JINR Computing Infrastructure by the Time of LHC Start-up» by LIT Director V. Ivanov, «Ongoing Developments at JINR Related to the ILC» by Chief Engineer G. Shirkov, «Preparation of the Technical Design Report for the Modernization of the Nuclotron and Planned Activities for the NICA Project» by VBLHE Director V. Kekelidze and BLTP Deputy Director A. Sorin, and «Activity of the JINR University Centre» by UC Director D. Fursaev.

The recommendations of the Programme Advisory Committees were reported by Chairpersons T. Hallman (PAC for Particle Physics), W. Greiner (PAC for Nuclear Physics), and W. Nawrocik (PAC for Condensed Matter Physics).

The following scientific reports were presented: «Physics Programme of the JINR Group in the BES-III Experiment» by A. Zhemchugov, «Latest Experimental Results at the Tevatron and the FNAL–JINR Cooperation» by E. Kajfasz, and «Commissioning of the VEPP-2000 Collider at the Budker Institute of Nuclear Physics and the Research Programme» by Yu. Shatunov.

The awarding of the title «Honorary Doctor of JINR» to Nobel prize winner M. Gell-Mann (USA) took place at the session. The diplomas to the winners of the JINR prizes for 2006 were also presented.

The session also included elections of Deputy Directors of JINR Laboratories (BLTP, FLNP, and FLNR).

The Scientific Council took note of the report presented by JINR Director A. Sissakian and was pleased to note the successful implementation of the recommendations made at its previous session which concern the development and upgrade of the JINR basic facilities and the efforts of the Directorate towards optimization of the human resources and of the partnership programme with other research laboratories. The Scientific Council also noted that the fundamental research activities in



the main scientific directions of the Institute had been successfully advancing.

The Scientific Council supported the intention of the Institute Directorate to reorganize the Veksler and Baldin Laboratory of High Energies and the Laboratory of Particle Physics, merging them into a Laboratory of High Energy Physics, in order to better utilize the human and financial resources. This would help in the implementation of the important programme of particle physics research, with special emphasis on the development of the Nuclotron accelerator complex and the future NICA facility. In view of this initiative, which was to be considered by the JINR Committee of Plenipotentiaries, the Scientific Council agreed with the Directorate's proposal not to elect Deputy Directors of VBLHE, planned for that session.

The Scientific Council recognized the new efforts by the JINR Directorate to intensify regular interactions with official bodies and scientific communities of the Member States, and was pleased to learn about the renewal of the participation of the Republic of Cuba in the activities of the Institute.

The Scientific Council also noted the new initiatives, which were started, towards the restoration of the membership of the People's Republic of China at JINR.

The Scientific Council highly appreciated the fruitful work of the Institute Directorate to involve new countries and partners in the activities of JINR, in particular, the signature of the Agreement on Cooperation between JINR and the Ministry of Science and Environmental Protection of the Republic of Serbia, which took place in Dubna in April 2007. Based on this agreement, the Republic of Serbia became an associate member of JINR. The Scientific Council also appreciated the Agreement in the Field of Science, Innovation and Education, signed in August 2007 between JINR and the Sakha Republic (Yakutia) of the Russian Federation.

The Scientific Council supported further efforts to increase the Institute budget to help ensure implementation of the long-term development programme of JINR and was pleased to note that the average salary of the Institute staff was increased by 50% in April 2007, and expected a substantial increase of salaries to have high priority for the use of the increased JINR budget.

The Scientific Council endorsed the JINR Directorate's proposal to award the title «Honorary Doctor of JINR» to Professor M. Gell-Mann (USA), in recognition of his outstanding contributions to elementary particle physics, and congratulated him.

The Scientific Council took note, with interest, of the plans for the JINR future activities in particle physics and relativistic nuclear physics, in nuclear physics and condensed matter physics, presented by the Institute's Vice-Directors R. Lednický and M. Itkis as part of an updated road map of the JINR long-term research programme. The Scientific Council regarded as extremely important those provisions of the outlined road map of JINR's strategic development which con-

cern the upgrade and development of the home facilities, especially the programme on the NICA/MPD facility, and improvement of the Institute infrastructure, particularly pertaining to IBR, DRIBs, and IREN activities.

The Scientific Council supported the actions aimed at effective participation of scientists from the Member States in large international projects, afforded by modern computing and enhanced telecommunication infrastructure, and the emphasis on the development of basic and applied research in the field of nanoobjects and nanotechnologies, activities in radiobiology and medical research which were well matched with JINR's basic facilities and expertise.

The Scientific Council took note of the accident with the klystron for the IREN facility and its impact on the IREN project schedule.

The Scientific Council concurred with the recommendations made by the PACs at their meetings in April and June 2007, as reported at this session by Professors T. Hallman, W. Greiner, and W. Nawrocik.

**Particle Physics Issues.** The Scientific Council appreciated the active participation of JINR in the ILC project, as outlined in the PAC report, and expressed a wish to be informed regularly about the progress of this activity and participation of JINR specialists in it.

The Scientific Council concurred with the PAC's high estimation of the plans for JINR's participation in the physics studies at the Facility for Antiproton and Ion Research (FAIR, Darmstadt) and considered this activity to be very important for the research in the field of particle and relativistic nuclear physics underway at JINR.

The Scientific Council shared the opinion of the PAC that a crucial step in the successful realization of the NICA/MPD project would be the development of a comprehensive, resource-loaded project plan, which should be reviewed by an independent international panel of experts.

The Scientific Council was pleased to note the highly successful implementation of JINR's obligations for the ATLAS, CMS, and ALICE experiments. It also supported the PAC's recommendations on the timely preparation of the software and computing capability at JINR to allow JINR physicists to produce first scientific results at Dubna at the time of the LHC start-up along with scientists from the Member States.

The Scientific Council supported the recommendations of the PAC on the new projects: «Search for the  $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$  Decay at IHEP's U-70 Accelerator (KLOD Project)» and «JINR's Participation in the BES-III Physics Research Programme (BES-III Project)», as well as on the continuation of the current activities beyond 2007.

**Nuclear Physics Issues.** The Scientific Council noted the important new results obtained recently at FLNR in the field of radiochemical investigation of superheavy elements with  $Z = 112$  and  $114$  and strongly

recommended intensive effort leading to new developments in this field.

The Scientific Council appreciated the upgrade of the U400M cyclotron already underway. The acceleration of low-energy beams at U400M will extend the experimental capabilities of the Flerov Laboratory and allow an uninterrupted running of experiments during the forthcoming modernization of U400. The Scientific Council supported the programme of modernization of the FLNR cyclotron complex and looked forward to its rapid realization.

The Scientific Council supported the recommendations of the PAC on the new projects: «Precise Investigation of Rare and Forbidden Decays of Pions and Muons (MEG-PEN Project)», «Spin Physics at Storage Rings (SPRING Project)», and «Experimental Study of the Dynamics of Thermal Nuclear Multifragmentation (FASA-3 Project)», as well as on the continuation of the current activities beyond 2007.

**Condensed Matter Physics Issues.** The Scientific Council was pleased to note that the work on the modernization of the IBR-2 reactor was conducted in full compliance with the schedule. The main task for 2007 — defueling of the reactor core — was successfully accomplished. The Scientific Council supported FLNP's proposal for the construction of one cryogenic moderator by the time of the power start-up of the IBR-2M reactor, and recommended that the JINR Directorate ensure its realization in planning the budget for 2008–2010.

For the last 20 years, a unique complex of neutron spectrometers has been created at the IBR-2 reactor and large experience has been accumulated in neutron-aided research in physics, chemistry, materials science, biology, geology, and other sciences. The shut-down of IBR-2 for modernization gives the most convenient opportunity for the comprehensive upgrades of the existing spectrometers and for the construction of a number of new ones. The Scientific Council strongly recommended taking necessary steps to provide organizational and financial support for the programme of the development of neutron spectrometers prepared by FLNP. It is only through the realization of this programme that the

effective and innovative exploitation of IBR-2M will become possible.

As proposed by the JINR Directorate, the Scientific Council appointed Professor J. Nassalski (INS, Warsaw, Poland) as Chairperson of the PAC for Particle Physics for a term of three years and thanked Professor T. Hallman for his highly successful work as Chairperson of the PAC for Particle Physics, looking forward to the continuation of his work as member of this PAC.

As proposed by the JINR Directorate, the Scientific Council appointed Professor N. Walker (DESY, Hamburg, Germany) as new member of the PAC for Particle Physics for a term of three years and thanked Professors N. Giokaris and H.D. Trines for their very successful work as members of this PAC.

As proposed by the JINR Directorate, the Scientific Council re-appointed Professor W. Nawrocik as Chairperson of the PAC for Condensed Matter Physics for a term of one year.

The Scientific Council thanked Professor R. Broda for his very successful work as member of the PAC for Nuclear Physics.

The Scientific Council confirmed the mandates of the PACs with their present memberships until September 2010 and looked forward to the rotation of PAC members as stipulated by the Regulation for the JINR PACs.

The Scientific Council elected by ballot V. Osipov and A. Sorin as Deputy Directors of the Bogoliubov Laboratory of Theoretical Physics, V. Shvetsov as Deputy Director of the Frank Laboratory of Neutron Physics, R. Kalpakchieva, A. Popeko and V. Zagrebaev as Deputy Directors of the Flerov Laboratory of Nuclear Reactions until the completion of the terms of office of their respective Laboratory Directors.

The Scientific Council announced the vacancy of the position of Director of the Laboratory of Information Technology.

The Scientific Council congratulated the laureates of the JINR prizes for 2006 — winners of the annual scientific research competition in the fields of theoretical physics, experimental physics, physics instruments and methods, and applied physics.

## MEETINGS OF THE JINR FINANCE COMMITTEE

**A meeting of the JINR Finance Committee was held in Dubna on 21–22 February. It was chaired by A. Volodin, representative of the Russian Federation.**

The Finance Committee took note of the report, presented by JINR Director A. Sissakian, «Implementation of the Recommendations of the JINR Scientific Council and of the Decisions of the JINR Committee of

Plenipotentiaries (CP) Concerning JINR's Activity in 2006; Plans of the Institute for 2007».

The Finance Committee endorsed the activity of the Institute Directorate on the implementation of the JINR Plan of Research and International Cooperation in 2006. It highly appreciated the fruitful work of the Directorate on the involvement of new countries, in particular, the Republic of South Africa, into the JINR orbit.

The Finance Committee took note of the report by the JINR Assistant Director for Financial and Economic Issues, V. Katrasev, on the results of the audit review of the Institute's financial activity during 2005 and recommended that the Committee of Plenipotentiaries approve the auditors' conclusion. It was also recommended that the CP extend for another year the powers of the MS-Audit company, registered in Dubna, to examine the Institute's financial activity in 2006.

Based on V. Katrasev's report on the execution of the JINR budget in 2006, on the draft budget for 2007, on the budget forecast for the years 2008–2010, and on the draft of the Member States' contributions for 2008, the Finance Committee recommended that the CP approve the report presented by the Directorate on the execution of the JINR budget in 2005: in expenditure — US\$38 661.2 thousand, with the summary account as of 1 January 2006 being US\$276 247.0 thousand. It also noted the information on the execution of the JINR budget in 2006: in expenditure — US\$41 559.3 thousand and in income — US\$39 851.9 thousand, and recommended that the CP approve the budget for 2007 with the total expenditure amounting to US\$46.127 million, as well as the sums of the Member States' contributions for 2007.

The Finance Committee recommended setting the estimate of the budget for 2008 in income and expenditure to US\$55.98 million and adopting the provisional sums of the Member States' contributions and the debt payments for 2008, as outlined in the Committee's Protocol.

Considering the importance of implementing the strategic plan of JINR's development, the Finance Committee recommended that the future assessment of the contributions by the Governments of the Member States should be oriented to the forecast, calculated by the JINR Directorate, for the budgets with the total expenditure amounting to US\$68.9 million in 2009 and to US\$85.0 million in 2010.

The Finance Committee recommended commissioning the Working Group for financial issues of JINR under the CP Chairman to prepare proposals for amendments to the «Programme of Debt Restructuring and Reforming the System of Calculation and Payment of the Member States' Contributions for 2004–2010», concerning the amount of annual increase of the JINR budget and of the Member States' contributions, and to submit them for consideration to the Finance Committee and to the Committee of Plenipotentiaries in November 2007.

The Finance Committee recommended that the CP take note of the Directorate's information about the sale of the worn-out building of JINR's boiler-house, located in Dubna at 14, Molodezhnaya St., which was made in accordance with The Financial Regulations of JINR (Articles 11.1. and 8.3). The proceeds from the sale of this object should be reflected in updating the JINR budget for 2007.

The Finance Committee recommended that the CP approve the agreement, dated 4 December 2006, between the JINR Directorate and the Plenipotentiary of the Government of the Republic of Azerbaijan to JINR concerning the restructuring of the debt in accordance with the decision of the Committee of Plenipotentiaries (Protocol of the CP session on 18–19 March 2004), and that the CP agree with the proposed scheme of payments of the restructured debt by the Government of the Republic of Azerbaijan.

The Finance Committee concurred with the necessity of holding CP sessions two times a year to allow for approval of the Institute's budget before the beginning of fiscal year, and with changing accordingly the schedule of meetings of the Finance Committee, the Scientific Council and of the Programme Advisory Committees. In view of this, it was proposed to amend The Financial Regulations of JINR by adopting the following wording for Article 3.1.: «The Director of the Institute submits, until 15 October, to the Plenipotentiaries of the Governments of the Member States the draft budget for the next fiscal year».

Based on the report «On Basic Documents Regulating the Financial Activity of JINR», presented by the Assistant to the JINR Director for Innovative Development, A. Ruzaev, the Finance Committee approved the texts of «The Internal Financial Rules» and «The Regulation for the Purchase and Sale of Equipment, Stock and Other Objects» as worded by the Working Group for financial issues of JINR under the CP Chairman and by the JINR Directorate, and commissioned the Directorate to be guided by these documents in the financial activity.

Based on the report by A. Ruzaev «JINR's Innovation Activity: Tasks for 2007», the Finance Committee recommended that the Committee of Plenipotentiaries support the plans of the Institute Directorate for the development of innovation activity in 2007 and participation in the establishment of a special economic zone in Dubna by promoting the creation of an «innovation belt» around JINR. It was also recommended that in 2007 the Institute Director be allowed, based on the JINR Charter (Chapter VII, Article 31) and the Protocol of the CP session held on 17–18 March 2005 (Section V), to decide about JINR's participation in the creation of innovative enterprises, subject to subsequent notification of the Plenipotentiaries.

The Finance Committee thanked Professor S. Dmitriev, director of the Flerov Laboratory of Nuclear Reactions, for his interesting and informative scientific report «Fundamental and Applied Studies with Heavy-Ion Beams».

**A meeting of the JINR Finance Committee was held in Dubna on 23–24 November. It was chaired by N. Pershay, representative of the Republic of Belarus.**

The Finance Committee took note of the report «Activity of JINR in 2007 and Main Directions of the Insti-

tute's Strategic Development», presented by JINR Director A. Sissakian, and noted the successful implementation of the recommendations made at the previous sessions of the JINR Committee of Plenipotentiaries and of the Scientific Council which concern the development and upgrade of the JINR basic facilities, as well as the efforts of the Directorate towards optimization of the human resources and of the partnership programme with other research laboratories.

The Finance Committee supported the proposal of the Directorate to make changes to the structure of JINR in accordance with the road map of JINR's strategic development, focusing the main efforts on the upgrade of the Nuclotron accelerator complex and on the construction of the NICA facility. In order to concentrate the human and financial resources on the implementation of this priority programme of JINR, it was envisaged to establish the Veksler and Baldin Laboratory of High Energy Physics, excluding from the Institute structure the Veksler and Baldin Laboratory of High Energies and the Laboratory of Particle Physics.

The Finance Committee supported the efforts made by the Committee of Plenipotentiaries of the Governments of the JINR Member States and by the JINR Directorate to increase the Institute budget to help ensure implementation of the long-term development programme of JINR. The Finance Committee was pleased to note that the average salary of the Institute staff was increased by 50% in April 2007 and looks forward to the further implementation of the decision of the JINR Directorate that a substantial increase of salaries will have high priority for the use of the increased JINR budget.

The Finance Committee appreciated the fruitful work of the Institute Directorate to involve new countries and partners in the activities of JINR. In particular, it noted the signature, in Dubna in April 2007, of the Agreement on Cooperation between JINR and the Ministry of Science and Environmental Protection of the Republic of Serbia, based on which this country has become an associate member of JINR, and the signature, in August 2007, of the Agreement in the Field of Science, Innovation and Education between JINR and the Sakha Republic (Yakutia) of the Russian Federation.

The Finance Committee supported the proposal of the Institute Directorate concerning the establishment, with JINR's participation, of an Interstate Nanotechnology Centre of the Member States and commissioned the Directorate to send the corresponding documents to the Government of the Russian Federation. It also supported the efforts made by the Directorate to attract additional resources for financing the Institute and recommended that the JINR Directorate take an active part in the realization of the Federal Target Programme «R&D in Priority Directions of the Development of the Science and Technology Complex in Russia for the Years 2007–2012», as well as in the involvement of partners

from countries of the European Union (EU) for joint participation in the EU Seventh Framework Programme for Research and Technological Development.

The Finance Committee allowed JINR to hand over as a gift to the Moscow Institute of Physics and Technology a film archive with data, obtained in experiments with JINR's liquid-argon and propane bubble chambers, for the use in education activity.

Based on the report «Draft Budget of JINR for the Year 2008 and Draft Contributions of the Member States for the Years 2009–2010» presented by V. Kartsev, assistant director of JINR for financial and economic issues, the Finance Committee recommended that the Committee of Plenipotentiaries approve the amendments to «The Programme for Restructuring the Arrears and for Reforming the System of Calculation and Payment of Contributions of the JINR Member States for the Years 2004–2010», proposed by the JINR Directorate and the Working Group under the CP Chairman; approve the JINR budget for the year 2008 with the total expenditure amounting to US\$55.968 million, as well as the contributions of the Member States for the year 2008; determine the volume of the JINR budget for the year 2009 in income and expenditure amounting to US\$68.41 million; and adopt the provisional sums of the Member States' contributions and of arrears payments for the years 2009 and 2010.

The Finance Committee commissioned the JINR Directorate and the Working Group for financial issues of JINR under the CP Chairman to prepare proposals for determining the volume of the Institute budget for the year 2011 and for further improving the principles and methods of calculation of the Member States' contributions to the JINR budget after the year 2010. In developing the methodology of calculation of the Member States' contributions, account must be taken of the arrears in the payment of contributions which occurred during 2002–2003 and of the risks occurring due to the fluctuations of Member States' currencies to the US dollar.

The Finance Committee acknowledged the progress in implementing the agreements on the payments of the restructured arrears by the Republic of Armenia, Georgia, and the Republic of Azerbaijan and endorsed the Aide-Memoir, signed on 20 April 2007 between the Directorate of JINR and the Ministry of Science, Technology and Environment of the Republic of Cuba, on the renewal of the real participation of the Republic of Cuba in the activities of JINR, and agreed with the necessity of canceling the arrears in the payment of contributions by the Republic of Cuba to the JINR budget over a period from 1992 to 2007.

With a view to attracting investments for the development of the Institute's experimental equipment production capability, the Finance Committee allowed JINR to participate in establishing a limited liability company, together with the joint-stock company «Aspekt Research and Production Centre», contributing

to the statutory capital a share of fixed property of the Institute.

The Finance Committee of the Joint Institute for Nuclear Research thanked A. Vinogradov, chief en-

gineer of the Frank Laboratory of Nuclear Problems, for his interesting and informative scientific progress report on the construction of the IBR-2M reactor.

## MEETINGS OF THE JINR PROGRAMME ADVISORY COMMITTEES

**The 26th meeting of the Programme Advisory Committee for Nuclear Physics was held on 12–13 April. It was chaired by Professor W. Greiner.**

The PAC members were informed about the implementation of the recommendations taken at the previous meeting, about the resolution of the 101st session of the Scientific Council (January 2007) and about the decisions of the Committee of Plenipotentiaries (March 2007 session).

The PAC thanked Professor N. Janeva for her successful work as Chairperson of the PAC for Nuclear Physics.

The PAC considered four themes previously approved for completion in 2007 and three proposals of new projects, heard reports about the programme of modernization of the FLNR cyclotron complex and about the status of the NEMO experiment. The PAC members also heard two scientific reports.

The PAC made the following recommendations on the considered questions.

**Extension of Themes Previously Approved for Completion in 2007.** «*Nuclear Physics with Neutrons: Fundamental and Applied Investigations*». The PAC again highly appreciated the experimental programme realized at FLNP within the framework of this theme. The high-priority experiments conducted at external neutron sources were strongly encouraged.

«*Information, Computer and Network Support of JINR's Activity*». The PAC appreciated the progress made at JINR in the development of the networking and computing system and of the Grid segment in particular. The quality of service of the JINR networking is of vital importance for the whole Institute and should be further increased.

«*Mathematical Support of Experimental and Theoretical Studies Conducted by JINR*». The PAC appreciated the results, obtained within this theme, that concern both the problems of general interest and specific tasks and demands of nuclear physics studies at JINR Laboratories.

The PAC recommended extension of these three themes for the years 2008–2010 with first priority.

«*Construction of the IREN Facility (IREN Project)*». The PAC appreciated the current results obtained by FLNP and LPP staff on the implementation of the

project «Construction of the IREN Facility» and considered the schedule as presented for 2007 to be realistic. The PAC recommended closing this theme in 2007. Then a new theme «Test of the IREN Facility Phase I» should be opened in 2008 for one year with first priority.

**Proposals of New Projects.** «*Precise Investigation of Rare and Forbidden Decays of Pions and Muons (PEN-MEG Project)*». The PAC heard the proposal of DLNP to participate in two ambitious experiments at PSI on the decays  $\pi^+ \rightarrow e^+\nu$  and  $\mu^+ \rightarrow e^+\gamma$ . The first experiment will provide a precision test of  $\mu - e$  universality, while the search for  $\mu - e\gamma$  aims at new physics beyond the Standard Model.

«*Spin Physics at Storage Rings (SPRING Project)*». The PAC heard the presentation of the SPRING project on polarization studies of the nucleon structure and meson production in nucleon–nucleon collisions, based on single and double polarized measurements on ANKE.

«*Experimental Study of Dynamics of Thermal Nuclear Multifragmentation (FASA-3 Project)*». The PAC welcomed the new project on investigation of the decay properties of very hot nuclei with excitation energies around 500 MeV, considering the proposed method to investigate the time scales to be a relevant step forward in this field.

The PAC recommended approval of the three presented projects with high priority.

**Programme of Modernization of the FLNR Cyclotron Complex.** The PAC appreciated the started upgrade of the U400M cyclotron and looks forward to its rapid realization. The acceleration of low-energy beams at U400M will extend the experimental capabilities of the Flerov Laboratory of Nuclear Reactions and allow an uninterrupted running of experiments during the forthcoming modernization of U400. Timely preparation of experimental equipment is an essential prerequisite for the realization of the FLNR research programme. The PAC regards as relevant the modernization of the MT-25 Microtron in view of the further development of the DRIBs-II project.

**Status of the NEMO Experiment.** The PAC was pleased to hear the latest results of the NEMO-3 experiment on the search for the neutrinoless double-beta

decay. The question of Majorana nature of the neutrino, as well as neutrino masses, is one of the most important problems in modern particle physics, and new results of NEMO-3 are eagerly awaited. The PAC recommended continuation of this experiment.

**Scientific Reports.** The PAC heard with interest two scientific reports: «Measurement of a  $P$ -odd Effect in Triton Emission from the Reaction  ${}^6\text{Li}(n, \alpha){}^3\text{H}$ », presented by P. Sedyshev, and «RIB's Physics at FLNR», presented by G. Ter-Akopian.

**The 26th meeting of the Programme Advisory Committee for Condensed Matter Physics was held on 16–17 April. It was chaired by Professor W. Nawrocik.**

JINR Deputy Chief Scientific Secretary D. Kamanin informed the PAC about the Resolution of the 101st session of the Scientific Council (January 2007) and about the decisions of the Committee of Plenipotentiaries (March 2007 session).

**Status of Modernization of the IBR-2 Reactor.** The PAC was informed by FLNP Chief Engineer A. Vinogradov about the status of the modernization of the IBR-2 reactor. It was confirmed that important results in the reactor refurbishment were expected in 2007, according to the schedule. However, the fact of the missing funding from Rosatom will directly affect the financing of the cryogenic moderators. This will lead to an unacceptable delay in the effective use of the IBR-2M long-pulse reactor until 2013.

The PAC therefore expects the JINR and FLNP Directorates to take all necessary measures to ensure the continuation of the work for IBR-2 modernization, including the cold moderators complex, according to the schedule.

**Evaluation of the Projects of Spectrometers for IBR-2M.** A. Balagurov reported about a thorough evaluation of the proposals for spectrometers at the IBR-2M reactor made by a group of JINR and external experts.

The PAC approved the list, agreed for 2007, of the unfinished projects: FSD, REMUR (but without the REFAT option) and the projects with external support: SKAT, EPSILON, GRAINS (formerly called Horizont) and HRFD. The DN-6 project should also be supported if the budget is sufficient. The PAC also supported the request for external expertise for the SANS complex to be funded.

**Scientific Reports.** The PAC heard with interest the scientific reports:

- «Heavy Fermions in Transition-Metal Oxide  $\text{LiV}_2\text{O}_4$ » presented by V. Yushankhai, which concerned a theoretical consideration of strongly correlated electron systems;
- «Induction and Reparation of DNA Double Strand Breaks in Human Lymphocytes by Radiation with

Different Linear Energy Transfer» presented by A. Boreyko;

- «Recent Development of Gaseous Position-Sensitive Thermal Neutron Detectors for the IBR-2 Spectrometers» presented by A. Churakov.

**Status of Organization of Medical Research with Beams of the Nuclotron.** The PAC was informed by J. Ružička about the status of organization of medical research with beams of the Nuclotron. The PAC noted that interesting results had been obtained and recommended that the Nuclotron ion beams be made available for this type of research. At the same time the PAC expressed its opinion that the quality of the beams, the reliability of the source and also the running costs should be evaluated and compared with commercial proton therapy devices, before considering an application for use in human medicine.

**The 27th meeting of the Programme Advisory Committee for Particle Physics was held on 28–29 June. It was chaired by Professor T. Hallman.**

The PAC took note of the information, presented by JINR Vice-Director R. Lednický, on the Resolution of the 101st session of the JINR Scientific Council (January 2007), on the decisions of the JINR Committee of Plenipotentiaries (March 2007 session), and on the preparation of JINR's future Programme of Particle Physics Research.

The PAC noted with satisfaction that the planned budget of JINR was fully realized in 2006 for the first time in recent years. The PAC was pleased to learn about the decision of the Committee of Plenipotentiaries to increase the JINR budget by 22% in 2007 and about a further substantial increase planned for the next three years.

The PAC highly appreciated the fruitful work of the Institute Directorate to attract involvement in the activity of JINR by new countries, in particular, the Republic of South Africa and the Republic of Serbia, which have recently become associate members.

The PAC congratulated the Directorates of JINR and VBLHE, as well as the entire staff of the Institute, on the 50th anniversary of the commissioning of the Synchrotron.

The PAC heard with interest the reports presented by V. Kekelidze, director of VBLHE, A. Sorin, acting deputy director of BLTP, Yu. Potrebenikov, acting deputy director of LPP, A. Olchevski, director of DLNP, and by V. Ivanov, director of LIT, and was pleased to note that the main lines of development of the JINR future Programme of Particle Physics Research were being carried out in accordance with the recommendations of the JINR Scientific Council.

The PAC reiterated its appreciation of the active participation of JINR in the ILC project, as was presented in the report by JINR Chief Engineer G. Shirkov, and noted that JINR physicists were beginning to take an

active part in several fields of the ILC activity: work on photo injector prototype, participation in the design and construction of cryomodules, laser metrology, etc. JINR is also continuing to develop the possibility of hosting of the ILC in the Dubna region. The PAC expressed its strong support of further development of these plans.

The PAC noted with interest the information presented by A. Olchevski and highly appreciated the plans for JINR's participation in the physics studies at the Facility for Antiproton and Ion Research (FAIR, Darmstadt). The PAC stressed the importance of this activity for JINR's future studies in the field of particle and relativistic nuclear physics.

The PAC noted with interest the report «Status of the NICA/MPD Project and Priority Tasks for 2007», presented by A. Sissakian, A. Sorin, and V. Kekelidze. The PAC endorsed the proposed plan of priority tasks concerning the NICA/MPD complex for 2007 and was pleased to note the allocation of funding for this activity already in the current year. The PAC supported the establishment of the NICA/MPD Centre, a new scientific subdivision at VBLHE, for the organization and performance of work on this project. At the same time, the PAC reiterated its previous recommendation that a crucial step in the realization of this vision will be the development of a comprehensive, resource-loaded project plan which should be reviewed by an independent international panel of experts.

The PAC considered the proposals of new projects, presented at this meeting, and recommended approval of the project «Search for the  $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$  Decay at IHEP's U-70 Accelerator (KLOD Project)» to be executed until the end of 2009 and of the project «JINR's Participation in the BES-III Physics Research Programme (BES-III Project)» to be executed until the end of 2010.

The PAC took note of the report on JINR's participation in the LHC experiments at CERN: ALICE, ATLAS and CMS, and was pleased to note the successful effort towards timely fulfillment of JINR's obligations in these experiments, as well as the ongoing work to prepare for analysis of the first physics data after the LHC start-up. The PAC also supported the strategy of the JINR groups to concentrate their efforts on a few physics topics where JINR physicists find a strong advantage based on the scientific interests and capabilities of these groups. The PAC recommended

continuation of JINR's participation in these important projects.

The PAC noted with interest the report, presented by LIT Director V. Ivanov, on the development of the JINR networking, computing and information. The PAC recognized the progress of the work towards a substantial increase in the performance of the JINR Central Information and Computing Complex, and stressed the need for its increase up to 1 MSI2k by the end of 2007.

The PAC appreciated the significant amount of work already accomplished at LIT to prepare the software within the LCG (LHC Computing Grid) project, as well as to construct the JINR–Moscow 10 Gbps telecommunication data link.

The PAC made a recommendation on JINR's participation in the LHC Damper project. The PAC highly appreciated the important contribution of the LPP team to the design and construction of the high-power part of the LHC Transverse Feedback System. To continue the development of this expertise at JINR, being important for the booster part of the NICA project, the PAC recommended opening a new theme entitled «Physics and Engineering of Feedback Systems in Synchrotrons» to be executed until the end of 2010.

The PAC took note of the report on the theme «Mathematical Support of Experimental and Theoretical Studies Conducted by JINR» and noted the significant amount of research work accomplished under this theme to develop new methods and tools of mathematical data processing for experiments in particle physics and the interest of JINR Member States in this activity.

The PAC took note of the report on JINR's participation in the CLIC project and noted the importance of this work for JINR's future projects in the field of high-energy physics. The PAC highly appreciated the ongoing development effort to prepare for future experiments using a specialized RF test facility for investigation of surface damage of the CLIC acceleration structure imitator, and recommended continuation of this activity until the end of 2009 under the all-Institute theme «International Linear Collider: Accelerator Physics and Engineering».

The PAC noted with interest the report «Development of Particle Detection Methods Based on Thin-Wall Drift Tubes for Precision Coordinate Measurements at High Luminosity», presented by V. Peshekhonov, and encouraged the team engaged in the effort to continue the development of this technology and method.