

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 27–28 March. It was chaired by the Plenipotentiary of the Government of the Slovak Republic, S. Dubnička.

The plenipotentiaries considered and discussed the report «Results of JINR's Activity in 2008, Plans of the Institute for 2009, and the Main Lines of the Seven-Year Plan for the Development of JINR for 2010–2016» presented by JINR Director A. Sissakian. The Committee of Plenipotentiaries (CP) approved the activity of the Institute Directorate for the implementation of the JINR Plan for Research and International Cooperation in 2008, noting with satisfaction the implementation of 104% of the budget in income in 2008. The Committee also appreciated the successful implementation of the Scientific Council's recommendations concerning the scientific programme of JINR, the upgrade of the basic facilities, and the construction of new facilities.

The CP congratulated the international staff of JINR on the start-up of IREN-I — a new basic facility intended for investigations in the field of nuclear physics using the time-of-flight technique in the neutron energy range up to several hundred keV, and welcomed the intention of the IREN team to complete at the earliest possible time the precommissioning operations at IREN in order to start the first experiments in the second half of 2009.

The Committee noted the successful operation of the JINR facilities in 2008 with a total running time of approximately 10 000 h according to schedule, as well as the progress in the implementation of the Nuclotron upgrade programme, in the preparation of the

NICA Technical Design Report and the MPD Conceptual Design Report, as well as in the modernization of the complex of isochronous cyclotrons U400MR and U400 and of the IBR-2 reactor.

The CP recognized the successful implementation by JINR scientists of the Institute's programmes of theoretical and experimental studies, in particular on the relativistic chemistry of superheavy elements. It also appreciated the work of JINR teams in the external experiments, in particular on neutrino physics (NEMO-3), on charged kaon decays (NA48/2, CERN), on the detection of a new particle — the Ω_b baryon (D0, FNAL), and noted the successful activities of the JINR groups in the construction, assembly and adjustment of the ATLAS, CMS, and ALICE detectors at CERN's LHC.

The plenipotentiaries approved the main lines of the next seven-year plan for JINR development proposed for the years 2010–2016, based on the strategic provisions of the JINR road map and on the budget estimates for the future period, and took note of the information from the JINR Directorate that the total volume of financial resources envisioned by the approved budget forecast may be sufficient to ensure modernization of the existing basic facilities and construction of new facilities. The Committee commissioned the JINR Directorate to submit the final version of this plan for approval to the CP in November 2009.

The CP appreciated the work of the JINR Directorate to involve new partner countries in the activities of JINR, in particular the conclusion of the government-level agreement with the Arab Republic of Egypt in March 2009, and the signing of the Letter of Intent with the Republic of Hungary concerning intensification of joint basic and applied research at JINR, including the

intention of the Republic of Hungary to consider the possibility of restoration of its full membership and to inform the JINR Directorate about this effort until the end of 2009.

The Committee appreciated the extension of the Agreement between JINR and the Federal Ministry of Education and Research (BMBF) of Germany until the end of 2011 and welcomed the decision of the German side about the increase of the annual contribution of Germany to the JINR budget.

The CP noted the importance of the general agreement, signed in February 2009, between JINR and the Russian Research Centre «Kurchatov Institute» on further development of cooperation in the areas of basic and applied research, education, and innovations, and of the trilateral agreement between JINR, the Kurchatov Institute, and the International Association of Academies of Sciences concerning their participation in the establishment of an International Innovation Centre for Nanotechnology.

The CP took note of the activities planned by JINR to commemorate the centenary of the birth of N. Bogoliubov, an outstanding scholar of the 20th century and Director of JINR during 1965–1989.

Concerning the report presented by A. Tuleushev, Chairman of the Finance Committee, «Results of the Meeting of the JINR Finance Committee held on 24–25 March 2009», the CP approved the Protocol of this meeting and the report of the Joint Institute for Nuclear Research for the year 2007:

- on the execution of the budget in expenditure — US\$51 827.4 thousand,
- with the summary account as of 01.01.2008 — US\$477 968.0 thousand.

Concerning the report presented by A. Sedyshev, Director of the company «MS-Audit», «Results of the Audit of the Institute's Financial Activity for the Year 2007», the Committee of Plenipotentiaries approved the auditors' report on the financial activity of JINR examined for the year 2007 and thanked the company «MS-Audit» for the high quality of its audit work.

Based on the report presented by V. Katrasev, Assistant Director of JINR for Financial and Economic Issues, «Execution of the JINR Budget in 2008», the Committee of Plenipotentiaries took note of the information on the execution of the JINR budget in 2008:

- in expenditure — US\$60 143.6 thousand,
- in income — US\$58 298.2 thousand.

With a view to solving the question of pension provision of the employees from the Member States of the Institute — non-citizens of the Russian Federation — for the period of their work at JINR, the CP asked the Plenipotentiaries of the Member States to continue presenting to the JINR Directorate their proposals for possible ways of pension provision in their countries, and allowed the JINR Director to sign agreements with the Plenipotentiaries of the Member States concerning the pension provision of JINR employees.

The CP empowered the company «MS-Audit» to examine the Institute's financial activity for the year 2008 and approved the plan for auditing this activity, presented by the JINR Directorate.

The Committee thanked Professor E. Krasavin, Director-Organizer of the Laboratory of Radiation Biology, for the informative scientific report «Radiobiological Investigations at the JINR Heavy-Ion Accelerators: Problems and Prospects», presented at this session.

A regular session of the Committee of Plenipotentiaries of the Governments of the JINR Member States was held in Astana (Republic of Kazakhstan) on 19–21 November. It was chaired by the Plenipotentiary of the Government of the Slovak Republic to JINR, S. Dubnička.

The Plenipotentiaries considered the report «Implementation of the Decisions of the Committee of Plenipotentiaries and the Key Features of the Seven-Year Plan for the Development of JINR for 2010–2016» presented by JINR Director A. Sissakian. They noted with satisfaction the successful implementation of the decisions of the Committee of Plenipotentiaries (CP) and the recommendations of the Scientific Council concerning the scientific programme of JINR, the upgrade of the basic facilities, and the construction of new facilities.

The CP approved the Seven-Year Plan for the Development of JINR for the years 2010–2016, as recommended by the JINR Scientific Council and Finance Committee, and supported the efforts being taken towards integration of the JINR basic facilities into the common European research infrastructure.

The Committee noted the importance of the further support of the JINR educational programmes to ensure that the future scientific and technological workforce needs of the Member States are met and of the broad programme of innovative activities to be implemented using the opportunities afforded by the Special Economic Zone «Dubna».

The Committee congratulated the Directorate and the international staff of JINR on the complete and successful realization of the current seven-year scientific programme, noting that the major milestones achieved in implementing this programme provide a solid basis for further scientific and technological development of JINR. The CP recognized the significant scientific accomplishments of JINR scientists in 2009 in the fields of experimental and theoretical particle physics, nuclear physics and condensed matter physics, as well as the progress in the areas of information technology, education of young scientists, and innovative developments, in particular:

- the start-up of the IREN-I facility and progress towards achieving its design parameters;
- the ongoing unique experiment on the synthesis of element 117 in the $^{249}\text{Bk} + ^{48}\text{Ca}$ reaction, in partnership with the Oak Ridge National Laboratory (USA);

— the successful runs of the Nuclotron for experiments and for complex tests of its vital systems for the future operation of the Nuclotron-M/NICA facility;

— the commissioning of the high-speed 20 Gbps JINR–Moscow telecommunication channel with the availability of the implemented technological solutions for the further extension of the channel bandwidth.

The Committee noted with satisfaction that due to the efforts of the Member States the implementation of the JINR budget in the past several years had been achieved at the level of 100% of the planned budget, making it possible to realize the current scientific programme. It also emphasized the importance of the annual increase of the budget in 2010–2016, planned according to the budget forecast approved by the CP, for achieving the milestones of the development strategy for the next seven-year period.

The CP approved the recommendations of the 105th and 106th sessions of the Scientific Council and the JINR Topical Plan of Research and International Cooperation for 2010.

The Committee of Plenipotentiaries took note of the reports «Status of Major Basic Facility Projects of the Seven-Year Plan: NICA/MPD, DRIBs-III, IBR-2M and Spectrometers» presented by V. Kekelidze, Director of the Veksler and Baldin Laboratory of High Energy Physics, S. Dmitriev, Director of the Flerov Laboratory of Nuclear Reactions, and A. Belushkin, Director of the Frank Laboratory of Neutron Physics. It commissioned the JINR Directorate to continue the policy of concentration of the resources and of the efforts of the Institute's staff towards the realization of these central projects of basic facilities.

Concerning the report «Draft of the Seven-Year Plan for the Development of JINR for 2010–2016» presented by JINR Chief Scientific Secretary N. Russakovich, the CP acknowledged the large amount of work accomplished by the JINR Directorate to prepare the Seven-Year Plan for the Development of JINR for 2010–2016 and to organize its discussions at the sessions of the JINR Programme Advisory Committees and Scientific Council as well as its presentation at the meeting of the Finance Committee.

Based on the report «Draft Budget of JINR for the Year 2010 and Draft Contributions of the Member States for the Year 2011. Financial Support for the Seven-Year Plan for the Development of JINR for 2010–2016» presented by V. Katrasev, Assistant Director of JINR for Financial and Economic Issues, the Committee approved the JINR budget for the year 2010 with the total expenditure amounting to US\$82.912 million as well as the contributions of the Member States for the year 2010.

The CP adopted for the period from 2011 to 2013, as an interim version, the principle of determination of the Member States' contributions to the JINR budget in proportion to the annual growth of the Institute's budget proposed by the JINR Directorate and the Work-

ing Group for financial issues of JINR under the CP Chairman. According to it, the Committee determined the updated provisional volume of the JINR budget in income and expenditure for the year 2011 amounting to US\$98.71 million and adopted the updated provisional sums of the Member States' contributions and of arrears payments for the year 2011; determined the updated provisional volume of the JINR budget in income and expenditure for the year 2012 amounting to US\$117.61 million and adopted the updated provisional sums of the Member States' contributions and of arrears payments for the year 2012.

With a view to planning the contributions to the JINR budget for the year 2013 and taking into account the organization of budget process in the Russian Federation — the host country of the Institute — and in some other Member States, the CP determined the provisional volume of the JINR budget in income and expenditure for the year 2013 amounting to US\$137.14 million and adopted the provisional sums of the Member States' contributions and of arrears payments for the year 2013.

The CP postponed for the year 2013 the taking of the decision concerning the payment of Member States' arrears which occurred during 2002–2003, as recommended by the Working Group for financial issues of JINR under the CP Chairman, and commissioned the JINR Directorate and the Working Group to continue work to prepare proposals on the payment of Member States' arrears which occurred during 2002–2003 and on the further improvement of the principles and methods of calculation of the Member States' contributions to the JINR budget.

The Committee noted that the annual budget plans for the period 2010–2016, calculated according to the budget forecast approved by the Committee of Plenipotentiaries, ensure the expenditures presented by the Directorate in the Draft Seven-Year Plan for the Development of JINR for 2010–2016.

With a view to attracting investments for the development of the Institute's construction and maintenance infrastructure, the CP allowed the establishment, based on the JINR Repair and Construction Site, of a legal entity with the participation of JINR and of an interested investor, 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 29–30 October 2009» presented by A. Tuleushev, Chairman of the Finance Committee, the Committee of Plenipotentiaries approved the Protocol of this meeting of the Finance Committee.

The Committee noted and discussed the information «Calling of the Elections and Nomination of Candidates for the Position of the Director of JINR» presented by CP Chairman S. Dubnička. Due to the completion, on 31 December 2010, of the term of office of the current

GOVERNING AND ADVISORY BODIES OF THE JOINT INSTITUTE FOR NUCLEAR RESEARCH

COMMITTEE OF PLENIPOTENTIARIES OF THE JINR MEMBER STATES

Armenia	S. Arutyunyan	Moldova	I. Tighineanu
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. Stogniy
Kazakhstan	K. K. Kadyrzhanov	Uzbekistan	U. S. Salikhbaev
D. P. Republic of Korea	Ri Je Son	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

O. Bakhran-ogly Abidinov	Azerbaijan	K. Królas	Poland	J. Ružička	Slovak Republic
I. Antoniou	Greece	G. N. Kulipanov	Russia	V. Sahni	India
A. Antonov	Bulgaria	V. I. Kuvshinov	Belarus	D. Sangaa	Mongolia
M. Budzynski	Poland	A. A. Logunov	Russia	Š. Šaro	Slovak Republic
Gh. Căta-Danil	Romania	M. Mateev	Bulgaria	N. M. Shumeiko	Belarus
A. Duisebaev	Kazakhstan	V. A. Matveev	Russia	A. N. Skrinsky	Russia
M. A. Ehliashvili	Georgia	T. M. Muminov	Uzbekistan	P. Spillantini	Italy
J. Ellis	Switzerland	D. L. Nagy	Hungary	M. Spiro	France
S. Galès	France	W. Nawrocik	Poland	H. Stöcker	Germany
N. Giokaris	Greece	Nguyen Manh Shat	Vietnam	Gh. Stratan	Romania
B. V. Grinev	Ukraine	Nguyen Van Hieu	Vietnam	V. I. Strazhev	Belarus
F. Guzmán Martínez	Cuba	Pak Ben Seb	Korean People's Democratic Republic	A. N. Tavkhelidze	Georgia
R.-D. Heuer	Switzerland	G. Piragino	Italy	C. Turtă	Moldova
Chen Hesheng	China	G. S. Pogosyan	Armenia	I. Wilhelm	Czech Republic
V. G. Kadyshevsky	Russia			G. M. Zinoviev	Ukraine
M. V. Kovalchuk	Russia				

Programme Advisory Committee for Particle Physics

Chairperson: [J. Nassalski](#) (Poland)
Scientific Secretary: A. Nagaitsev

Programme Advisory Committee for Nuclear Physics

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

Programme Advisory Committee for Condensed Matter Physics

Chairperson: M. Kantser (Moldova)
Scientific Secretary: O. Belov

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

Bogoliubov Laboratory of Theoretical Physics	Veksler and Baldin Laboratory of High Energy Physics	Dzhelepov Laboratory of Nuclear Problems	Flerov Laboratory of Nuclear Reactions	Frank Laboratory of Neutron Physics	Laboratory of Information Technologies	Laboratory of Radiation Biology	University Centre
Director V. V. Voronov	Director V. D. Kekelidze	Director A. G. Olshevski	Director S. N. Dmitriev	Director A. V. Belushkin	Director V. V. Ivanov	Director E. A. Krasavin	Acting Director S. Z. Pakuliak
<i>Research in</i> – symmetry properties of elementary particles – field theory structures – interactions of elementary particles – theory of atomic nuclei – theory of condensed matter	<i>Research in</i> – structure of nucleons – strong interactions of particles – resonance phenomena in particle interactions – electromagnetic interactions – relativistic nuclear physics – particle acceleration techniques – interactions of multicharged ions in a wide energy range	<i>Research in</i> – strong, weak and electromagnetic interactions of particles, particle structure – nuclear structure – nuclear spectroscopy – mesoatomic and mesomolecular processes – particle acceleration techniques – radiobiology	<i>Research in</i> – properties of heavy elements, fusion and fission of complex nuclei, cluster radioactivity, reactions on an isomer hafnium target – reactions with beams of radioactive nuclei, structure of neutron-rich light nuclei, nonequilibrium processes – interactions of heavy ions with condensed matter – particle acceleration techniques	<i>Research in</i> – nuclei by neutron spectroscopy methods – fundamental properties of neutrons – atomic structure and dynamics of solids and liquids – high-temperature superconductivity – reactions on light nuclei – materials by neutron scattering, neutron activation analysis and neutron radiography methods – dynamic characteristics of the pulsed reactor IBR-2	<i>Research in</i> – provision of operation and development of the JINR computing and networking infrastructure – optimal usage of international computer networks and information systems – modern methods of computer physics, development of standard software	<i>Research in</i> – radiation genetics and radiobiology – photo radiobiology and molecular biophysics systems – radiation protection physics	<i>Directions of activities:</i> – senior students' education – JINR postgraduate courses – school students' education – staff training and retraining – organization of schools and practice courses in JINR research trends
							Central Services
							– central scientific and information departments – administrative and economic units – manufacturing units

Director of JINR and with the opinions of the Plenipotentiaries taken into account, the CP called the election of the JINR Director for 25 March 2010, at the next CP session. The election will be held in accordance with the JINR Charter and the Regulation for the Director of JINR approved by the CP on 22 November 2008. Written proposals for nomination of candidates for the election for the position of the Institute's Director should be presented by the JINR Member States to the CP Chairman until 25 December 2009, i.e., not later than three months before the election date. The CP also noted the information that by 19 November 2009 all the Plenipotentiaries of the Governments of the Member States had forwarded letters to CP Chairman S. Dubnička in support of the candidacy of A. Sissakian for the election for the JINR Director position for a new term.

SESSIONS OF THE JINR SCIENTIFIC COUNCIL

The 105th session of the JINR Scientific Council, chaired by JINR Director A. Sissakian, took place in Dubna on 19–20 February.

At the session, Professor A. Sissakian presented a report on the implementation of the recommendations made at the 104th session of the Scientific Council, on the plans of JINR's activity for 2009, and on the JINR mid-term development strategy in line with the Institute's road map.

JINR Vice-Directors R. Lednický and M. Itkis, and Chief Engineer G. Shirkov presented reports on the preparation of the Seven-Year Plan for the Development of JINR for the years 2010–2016 in the fields of particle physics, nuclear physics and condensed matter physics, as well as in the field of the development of the engineering infrastructure. The progress report on the preparation of the NICA/MPD project was presented by VBLHEP Acting Director V. Kekelidze.

The recommendations of the Programme Advisory Committees were reported by the Chairpersons J. Nassalski (PAC for Particle Physics), W. Greiner (PAC for Nuclear Physics), and V. Kantser (PAC for Condensed Matter Physics).

Professor A. Sissakian presented the Directorate's proposal to award the title «Honorary Doctor of JINR» to Professors B. Chadraa (Mongolia) and V. Moskalenko (Moldova), in recognition of their outstanding contributions to the advancement of science and the education of young scientists.

The recommendations of the Jury on the JINR prizes for the year 2008 were presented by Professor R. Lednický. The Scientific Council congratulated Professor V. Rubakov (INR, Moscow) on being awarded

The Committee took note of the reports presented at the round-table session «Integration of Science, Education, and Innovations as a Basis for Sustainable Development» and thanked the speakers.

The CP supported an address proposed to be submitted to the President of the Russian Federation, D. Medvedev, and to the President of the Republic of Kazakhstan, N. Nazarbayev, concerning the initiative towards the development of an interstate programme for a large-scale use of basic facilities as a platform for innovative development of the region based on a broad international cooperation of the JINR Member States.

The Committee expressed gratitude to the organizers for the preparation and conduct of the CP session, especially to the Plenipotentiary of the Government of the Republic of Kazakhstan to JINR.

the 2008 B. Pontecorvo Prize for his essential contributions to the study of close interrelation between particle physics, astrophysics and cosmology and to the elaboration of a fundamentally new theory of physical space.

The session included elections of the Deputy Directors of the Dzhelapov Laboratory of Nuclear Problems, the Laboratory of Information Technologies and the Frank Laboratory of Neutron Physics, as well as the election of the co-chairman of the Scientific Council.

Professor D. Shirkov presented to the Scientific Council the scientific report «Broken Symmetries in Quantum Physics».

The Scientific Council adopted the following Resolution.

The Scientific Council took note of the comprehensive report presented by JINR Director A. Sissakian on the implementation of the recommendations made at the 104th session of the Scientific Council, on the plans of JINR's activity for 2009, and on the JINR mid-term development strategy in line with the Institute's road map. The Scientific Council was pleased to note the successful implementation of most of its recommendations concerning the current and long-term scientific programmes of JINR, the operation and upgrade of the basic facilities, and the construction of new facilities, as well as the progress in the areas of information technology, innovative developments and educational activities in 2008.

As one example, the Scientific Council highly appreciated the recent advances made at JINR in understanding the chemistry of superheavy elements (element 114). It looks forward at a future meeting to presentation of a comprehensive plan concerning how

JINR scientists will develop the necessary capability to ultimately reach the island of stability.

The Scientific Council supported the milestones of the mid-term development strategy, which the Institute will strive to achieve during the next seven-year period of its activity in 2010–2016, outlined in the report by Director A. Sissakian.

The Scientific Council noted with satisfaction the decision of the Committee of Plenipotentiaries to increase the JINR budget by 22.8% in 2009, as well as information about the planned increase of the average salary of the Institute staff in April 2009, presented by Director A. Sissakian.

The Scientific Council noted that the Committee of Plenipotentiaries had also reiterated its previous decision to address the governments of the Member States with a proposal to make provisions for an increase of the JINR budget in 2011–2015 (tentatively 2.5 times by the year 2015 relative to the level of the year 2010) with a view to creating an in-house facility base attractive to the Member States and the world scientific community. These facilities will include the Nuclotron-M and NICA/MPD, a third-generation DRIBs facility (DRIBs-III), and a complex of state-of-the-art neutron spectrometers for the modernized reactor IBR-2M.

The Scientific Council noted the importance of the general agreement, signed in February 2009, between JINR and the Russian Research Centre «Kurchatov Institute» on further development of cooperation in the areas of basic and applied research, education, and innovations, and of the trilateral agreement between JINR, the Kurchatov Institute, and the International Association of Academies of Sciences concerning their participation in the establishment of an International Innovation Centre for Nanotechnology of the CIS countries.

Taking note of the information, requested at the previous session, about the rules for the associate membership in JINR and about the efforts being taken by the JINR Directorate towards conclusion of government-level agreements with new Associate Member States of the Institute, the Scientific Council highly appreciated this work and looks forward to its active continuation.

The centenary of the birth of N. Bogoliubov, an outstanding scholar of the 20th century and former Director of JINR for many years, was planned to be celebrated on 21 August 2009. The Scientific Council took note of the activities planned by JINR to commemorate this date.

The Scientific Council congratulated Professor D. Shirkov, Honorary Director of the Bogoliubov Laboratory of Theoretical Physics, on the award of the Order of Merit for the Fatherland, in recognition of his outstanding contributions to theoretical physics and to the education of young scientists, presented at this session.

The Scientific Council took note of the reports with proposals for the seven-year plan for the development of JINR for 2010–2016 in the fields of particle physics, nuclear physics and condensed matter physics, presented

by Vice-Directors R. Lednický and M. Itkis, and concerning the development of the engineering infrastructure, presented by Chief Engineer G. Shirkov. The Scientific Council considered the above draft to be a good foundation for the comprehensive programme of JINR's development, clearly emphasizing the future of the Institute as a world-class laboratory in selected fields of research, relying on its own basic facilities, and recommended that the Committee of Plenipotentiaries approve the general lines of the presented draft plan at its next session in March 2009. As part of this development, consideration of the future evolution and streamlining of the laboratory structure of the Institute to optimize the impact of the scientific programme should be also carried out.

The Scientific Council noted that realizing the projected increase in budget would be crucial for the success of the seven-year plan for JINR development in 2010–2016 and underscored the importance of the decision taken by the Committee of Plenipotentiaries on the annual increase of the JINR budget. However, it strongly encouraged the Directorate, together with the Laboratory Directors, to develop, internal to the Institute, a contingency plan, including prioritization of proposed activities, addressing the possibility that the full level of funding may be delayed. The Scientific Council also encouraged the JINR Directorate to help insure that conditions exist at the Joint Institute that will be attractive to young scientists and technical specialists who will comprise the future JINR workforce, noting that a comprehensive accounting of the users and students would help underscore the importance of the JINR scientific programmes for educating the next generation of young scientists from the Member States.

The Scientific Council looked forward to a presentation at its next meeting of a coherent all-institute strategy regarding the future of hadron therapy at JINR which addresses the ongoing treatment programme at DLNP, the hadron therapy research and development programme with carbon beams at VBLHEP, and a possible future treatment centre external to JINR. The resulting all-institute strategy should articulate the relationship and synergies between the efforts at the above and other laboratories.

The Scientific Council took note of the progress report on the preparation of the NICA/MPD project, presented by VBLHEP Acting Director V. Kekelidze, appreciating the significant progress in the preparation of the NICA Technical Design Report and the MPD Conceptual Design Report, the efforts towards concentration of VBLHEP resources on this activity, as well as the active use of world experience accumulated in this field of accelerator and detector engineering. The Scientific Council recognized the present effort to internationalize the construction and the scientific programme of Nuclotron-M/NICA and strongly encouraged continued vigorous effort in this direction.

The Scientific Council agreed with the PAC for Particle Physics that a draft white paper which clearly articulates the compelling physics programme possible with the NICA/MPD facility must be prepared in 2009, and recommended in the strongest terms that this document serve as the basis for an in-depth, in-person review by an international panel of world-recognized experts in the areas of scientific endeavor proposed to be studied at NICA/MPD (relativistic nucleus–nucleus physics, spin physics, etc.)

The Scientific Council concurred with the recommendations made by the PACs at their January 2009 meetings as reported at this session by Professors J. Nassalski, W. Greiner, and V. Kantser.

Particle Physics Issues. The Scientific Council endorsed the main lines of the JINR Programme of Particle and Relativistic Nuclear Physics Research proposed by the laboratories for the period 2009–2011 in accordance with the main provisions of the updated road map. The main scientific emphasis in the seven-year plan should be the future development of the in-house facility base for fundamental scientific research.

The Scientific Council highly appreciated the pool of expertise constituted by the Machine Advisory Committee (MAC) for the Nuclotron-M/NICA accelerator complex, chaired by Professor B. Sharkov (ITEP, Moscow), and the work it is carrying out. It supported the recommendation of the PAC calling for a face-to-face review of the proposed plan and design for Nuclotron-M/NICA at the earliest appropriate time and looks forward to a report from the Chairperson of the MAC on the results of this review at its next meeting. A full review of the proposed design by the MAC is essential before publication of the NICA technical design report.

The Scientific Council concurred with the PAC that the JINR teams participating in the ALICE, ATLAS, and CMS experiments should strongly focus on the involvement of students and upon their efforts on the detailed preparation for analysis of data. It is time for the JINR scientists to position themselves to play a leading role in the production of scientific results. The future activities should include plans for upgrades of the LHC detectors.

The Scientific Council supported the recommendations of the PAC on the continuation of the current activities in particle physics, as outlined in the PAC report.

Nuclear Physics Issues. The Scientific Council highly appreciated the start-up of the IREN facility and congratulated the teams from FLNP, VBLHEP, and the Budker Institute of Nuclear Physics (Novosibirsk) on this remarkable achievement. It looks forward to the completion at the earliest possible time of the pre-commissioning operations at IREN in order to start the first experiments in the second half of this year.

The Scientific Council highly appreciated the scientific results in non-accelerator physics produced by DLNP scientists and recognized the leading role of this laboratory in the neutrino physics research at JINR. It looks forward to a presentation at its next meeting of the leadership role the JINR scientists are playing in various neutrino experiments and about potential streamlining of the programme in the event of constrained resources.

The Scientific Council also noted the significant contribution of DLNP physicists to nuclear and particle physics studies at accelerators in the field of intermediate energies.

Condensed Matter Physics Issues. The Scientific Council was very pleased to note that the work on modernization of the IBR reactor is progressing well and according to schedule, despite the delay in the delivery of the new reactor vessel. Noting also the progress in the upgrade of spectrometers to be used at the modernized IBR-2M reactor, it recommended focusing efforts on the start-up of the complex of cryogenic moderators, on the development of modern spectrometers on their basis, and on the identification of new research areas compatible with new IBR-2M facilities.

The Scientific Council appreciated the high level of activities in condensed matter science pursued by the research groups at FLNP, BLTP, FLNR, and LRB.

The Scientific Council urged the Programme Advisory Committees to concentrate their efforts on further detailed evaluation of the seven-year plan which should be recommended for the final approval by the Committee of Plenipotentiaries in November 2009.

The Scientific Council approved the Jury's recommendations on the JINR prizes for 2008.

The Scientific Council re-elected by ballot Professor I. Wilhelm as executive co-chairman of the Scientific Council for a term of three years.

The Scientific Council elected by ballot Professors V. Bednyakov, A. Kovalík, and G. Shelkov as Deputy Directors of the Dzhelapov Laboratory of Nuclear Problems, Professors S.-A. Adam and P. Zrelow as Deputy Directors of the Laboratory of Information Technologies, and Professor D. Sangaa as Deputy Director of the Frank Laboratory of Neutron Physics, until the completion of the terms of office of the directors of the corresponding laboratories.

The 106th session of the JINR Scientific Council, chaired by JINR Director A. Sissakian and Professor I. Wilhelm of Charles University (Prague, Czech Republic), took place in Dubna on 24–25 September.

Professor A. Sissakian presented a report concerning the implementation of the current programme of the scientific research and development of JINR (2003–2009) and the key features of the Seven-Year Plan for the Development of JINR for 2010–2016.

The Scientific Council considered the final draft of the seven-year plan for JINR development. Vice-

Directors R. Lednický and M. Itkis presented reports on the main scientific sections of the plan concerning the programmes in the fields of particle physics and high-energy heavy-ion physics; low- and intermediate-energy nuclear physics, nuclear physics with neutrons, and condensed matter physics (experimental and theoretical research). The programmes, included in the supplementary sections, were presented by S. Pakuliak (educational activities), G. Shirkov (development of the engineering infrastructure and of information technologies), N. Lenskaya (innovation activities; staff and social policy), and V. Katrasev (financial support for the projected activities).

The status of major facility projects of the seven-year plan were reported by V. Kekelidze (NICA/MPD), S. Dmitriev (DRIBs-III), and A. Belushkin (IBR-2M and spectrometers).

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

Professors J. Roberto and Yu. Oganessian co-presented the scientific report «Perspectives of the Collaboration between the Oak Ridge National Laboratory and JINR in the Studies of Superheavy Elements».

The session included the elections of the Directors of the Veksler and Baldin Laboratory of High Energy Physics and of the Laboratory of Radiation Biology, as well as the presentation of diplomas to the winners of JINR prizes for the year 2008.

The Scientific Council adopted the following Resolution.

General Considerations. The Scientific Council welcomed the comprehensive report presented by JINR Director A. Sissakian, congratulated the Directorate and the international staff of JINR on the complete and successful realization of the current seven-year scientific programme and highly appreciated the valuable contributions to the advancement of science and technology in a world view that have been achieved as part of this programme.

The Scientific Council recognized the significant scientific accomplishments of JINR scientists in 2009 in the fields of particle physics, nuclear physics, and condensed matter physics, as well as the progress in the areas of information technology, education of young scientists, and innovative developments. As several examples in these fields, the Scientific Council noted:

— the two recent successful runs of the Nuclotron for experiments and for complex tests of its vital systems for the future operation of the Nuclotron-M/NICA facility, in particular, the power supply and quench protection systems at cycle with a 1.5 T magnetic field, upgraded cryogenics;

— the start-up of the 1st phase of the IREN facility and progress towards achieving its design parameters;

— the beginning of the unique experiment on the synthesis of element 117 in the $^{249}\text{Bk}+^{48}\text{Ca}$ reaction, in partnership with the Oak Ridge National Laboratory (USA);

— the commissioning of the high-speed 20 Gbps JINR–Moscow telecommunication channel with the availability of the implemented technological solutions for the further extension of the channel bandwidth.

The Scientific Council highly appreciated the new efforts of the JINR Directorate for the further development of partnership programmes with the Member States and other countries. It noted, in particular, the recent conclusion of the government-level agreement with the Arab Republic of Egypt, the signature of the Letter of Intent with the Republic of Hungary concerning intensification of joint basic and applied research at JINR, the extension of the Agreement between JINR and the Federal Ministry of Education and Research (BMBF) of Germany until the end of 2011 and the decision of the German side about the increase of the annual contribution of Germany to the JINR budget.

The Scientific Council noted with satisfaction that due to the efforts of the Member States the implementation of the JINR budget in the past several years had been achieved at the level of 100% of the planned budget, making it possible to realize the current scientific programme. The Scientific Council emphasized again the importance of the annual increase of the budget in 2010–2016, planned according to the budget forecast approved by the Committee of Plenipotentiaries, for achieving the milestones of the development strategy for the next seven-year period, as outlined in the report by Director A. Sissakian.

Recommendations Concerning the Next Seven-Year Scientific Programme. The Scientific Council thanked the JINR Directorate and its working group for preparing the final draft of the Seven-Year Plan for the Development of JINR for 2010–2016 and for making the written materials on this plan available well in advance of this session.

The Scientific Council noted the detailed reports covering this plan in the fields of particle physics and high-energy heavy-ion physics, presented by Vice-Director R. Lednický; low- and intermediate-energy nuclear physics, nuclear physics with neutrons, and condensed matter physics, presented by Vice-Director M. Itkis; educational programmes, presented by S. Pakuliak, Acting Director of the University Centre; concerning the development of the engineering infrastructure and information technologies, presented by Chief Engineer G. Shirkov; innovative activities, staff and social issues, presented by N. Lenskaya, Deputy Head of the Human Resources and Innovation Activity Office; and concerning the financial support for the projected activities, presented by V. Katrasev, Head of the Finance and Economics Office.

The Scientific Council also noted the status of the major projects of basic facilities: the NICA/MPD facility, the cyclotron complex DRIBs-III, the IBR-2M reactor and neutron spectrometers, presented in the reports by VBLHEP Acting Director V. Kekelidze, FLNR Director S. Dmitriev, and FLNP Director A. Belushkin.

The Scientific Council highly appreciated the concerted effort by the JINR Directorate to upgrade and modernize the JINR basic facilities and its strategic plan to develop state-of-the-art instrumentation to create new scientific opportunities for the future, and to keep JINR at the forefront of basic research in a world view. The success of this work is essential to sustain JINR as a world-leading research centre attractive to the Member States and other collaborating institutions.

The Scientific Council recommended that the JINR Directorate communicate the plans of the Institute future facilities and detectors to the European Commission departments for science and research to ensure the JINR strategic plan for the future research programme is incorporated into planning by the European research community.

The Scientific Council also highly appreciated the high number of facility hours being delivered for the ongoing scientific programme. It looks forward at future meetings to further reports on the effectiveness with which these hours are being used for new advances in basic and applied science.

The Scientific Council strongly endorsed the plan presented by Vice-Director M. Itkis to upgrade the facilities of the Flerov Laboratory to allow it to continue to be a world-leading laboratory for nuclear physics research.

The Scientific Council highly appreciated the progress made in the effort to upgrade the Nuclotron to meet the performance required for the future NICA/MPD programme, noting that the plan to construct this facility is aggressive. It looks forward to a report at a future meeting by the Chairperson of the Machine Advisory Committee (MAC) for the Nuclotron-M/NICA accelerator complex concerning the soundness of the cost and schedule plan, and the readiness of the project for full construction.

The Scientific Council noted that in addition to research topics already planned for the NICA/MPD facility, an opportunity to extend basic knowledge of nuclear matter in the strangeness and antimatter sectors also exists and suggested that this possibility should be studied.

The Scientific Council was pleased to note the ongoing effort at JINR to develop effective means of cancer treatment using particle beams and strongly endorsed the development, in parallel with proton therapy, of radiocarbon therapy which offers significant advantages for some cancer treatments due to the increased sharpness of the Bragg peak for delivered ionization. It also strongly encouraged the development of positron emission tomography to afford comprehensive capability for

cancer diagnosis and treatment at future facilities which JINR plans to develop.

The Scientific Council stressed that the next six months would be crucial for beginning analysis on LHC data and that close communication and coordination between JINR scientists and the staff of LIT would be needed to produce timely world-leading physics results in the highly competitive environment which will occur when first data become available.

The Scientific Council stressed that strong support of the educational programmes and the work of the JINR University Centre by the Directorate is one of the highest priorities of the Institute to ensure the future scientific and technological workforce needs of the Member States are met and to ensure that the next generation of talented young scientists is well trained and ready to meet future research challenges and opportunities.

The Scientific Council recommended that the JINR Directorate take into account the remarks and suggestions concerning the draft plan given at this session and submit it to the Committee of Plenipotentiaries in November 2009. The Scientific Council asked the CP to approve the Seven-Year Plan for the Development of JINR for 2010–2016 and to work, even during the present difficult financial period in some Member States, to try to ensure the requested financial support for its successful realization.

The Scientific Council looks forward at its future meetings to regular progress reports concerning implementation of the seven-year plan.

Recommendations in Connection with the PACs.

The Scientific Council concurred with the recommendations made by the PACs at their June 2009 meetings as reported at this session by Professors T. Hallman, W. Greiner, and V. Kantser.

Particle Physics Issues. The Scientific Council appreciated the significant advances that had been made in upgrading the VBLHEP accelerator complex and in the preparation of the NICA project, as well as the intention of several new external laboratories to sign the MoU concerning the realization of the project.

The Scientific Council supported the recommendation of the PAC that the JINR Directorate should provide the required funding for the Nuclotron-M project stages in accordance with the programme and time schedule for the successful completion of this project.

The Scientific Council emphasized the importance of an in-person meeting of the MAC for the Nuclotron-M/NICA accelerator complex, chaired by Professor B. Sharkov (ITEP, Moscow), at JINR within the next six months for in-depth discussions and for visiting the Nuclotron as well as other important engineering sites relevant to the Nuclotron-M and NICA/MPD projects.

The Scientific Council was pleased to note that the MPD development team had presented at the PAC meeting a professional, well-organized first draft of the Con-

ceptual Design Report for the MPD detector, and endorsed the proposed concept and supported the strategy of stage-by-stage construction of this detector. It also noted the necessity of a critical assessment of the physics ideas presented in the white paper for simulations of the relevant physics channels.

The Scientific Council agreed with the opinion of the PAC concerning the near-term priority of introducing a chapter in the MPD Conceptual Design Report or the forthcoming NICA physics white paper which shows, based on first-order calculations, the feasibility, taking into account essential characteristics such as the expected luminosity and the detector acceptance, of measuring key observables related to the main physics themes of the project. These calculations should be followed up with detailed modeling of the detector capability.

The Scientific Council welcomed the report presented at the PAC meeting on the proposal to begin consolidation of the VBLHEP physics programme and recommended that the JINR Directorate support the implementation of this programme.

The Scientific Council took note of the information about readiness of the JINR groups participating in the ALICE, ATLAS, and CMS experiments for data taking and analysis. Documented projects for JINR's further participation in these experiments should be received by the PAC at its next meeting.

The Scientific Council supported the PAC's recommendations on the new projects NA62, HyperNIS, DSS, ALPOM-2, and «Development of Prototype Units for a Complex of Carbon Radiotherapy», as well as on the continuation of the current activities beyond 2009, as outlined in the PAC report.

The Scientific Council strongly agreed with the PAC for Particle Physics that to maximize the possibility of the ILC being sited in the Moscow Region, a continuous vigorous effort by the JINR Directorate is necessary to establish the ILC as a Russian national priority through dialogue with the Russian national authority.

Nuclear Physics Issues. The Scientific Council noted the significance and high efficiency of the studies of nuclei far from the stability line, which had been performed at the Flerov Laboratory of Nuclear Reactions. A number of experiments carried out with the use of actinide targets and of beams of ^{48}Ca ions have resulted in the synthesis and/or discovery of 6 new elements ($Z = 112, 113, 114, 115, 116, 118$) and of 34 new heavy nuclides.

The Scientific Council is in full agreement with the seven-year plan stating the need for construction of a high-intensity accelerator of heavy ions. In particular, it is of great interest to provide acceleration of ions from carbon to uranium up to the energy range 5–10 MeV/n with stepwise and smooth variation.

The Scientific Council recommended supporting the DLNP proposals for the next seven-year plan aimed at

the study of neutrino physics and dark matter (double-beta decay and neutrino magnetic moment: projects NEMO-3, GERDA&MAJORANA, GEMMA-II) and astrophysics (projects LESI, EDELWEISS-II). In recent years, all these projects have made great progress in investigation of neutrino masses, especially in double-beta searches of elements ^{76}Ge , ^{100}Mo , and ^{82}Se ; in search for a neutrino magnetic moment and for dark matter signals, as well as in measurements of basic cross sections for pd and dd reactions at the lowest energies that are important for understanding the burning of the Sun and the stars. With the proposed improvements of the new stages, there lies in the future a great discovery potential.

Condensed Matter Physics Issues. The Scientific Council was pleased to note that the IBR-2 reactor modernization is proceeding in full accordance with the technical and financial plans.

The Scientific Council took note of the progress in the modernization of the spectrometer complex for the IBR-2M reactor. The concentration of the available resources on the first-priority instruments (DN-6, GRAINS, SKAT/EPSILON) is essential to ensure that the schedule of work on them is observed. With regard to science, the spectrometer complex modernization should incorporate plans for its long-term complementarity with the European Spallation Source (ESS) project and the future development of synchrotron radiation techniques. The Scientific Council noted that adequate funding from the JINR budget should be received to complete these activities on time.

The Scientific Council appreciated the high level of condensed matter research performed by teams at FLNP, BLTP, DLNP, LIT, and LRB, as well as the increased number of high-quality scientific reports and poster presentations by young scientists from these laboratories.

Common Issues. The Scientific Council appreciated the collaboration of the JINR University Centre (UC) with the Plenipotentiaries of the Member States in the development of a special system of scholarships/grants in order to engage students from a larger number of Member States to the postgraduate studies at JINR. Intensification of contacts with the Plenipotentiaries in order to organize regular visits to the UC of natural science teachers and school pupils from the Member States was also recommended.

Memberships of the PACs. The Scientific Council deeply regretted the sad loss of Professor J. Nassalski, Chairperson of the PAC for Particle Physics, who had made an outstanding contribution to the development of scientific collaboration between JINR and Polish research centres.

As proposed by the JINR Directorate, the Scientific Council appointed Professor E. Tomasi-Gustafsson (IRFU, CEA Saclay, France) as Chairperson of the PAC for Particle Physics for a term of one year. It also

appointed Professors J. Mnich (DESY, Hamburg, Germany) and I. Tserruya (WIS, Rehovot, Israel) as new members of this PAC, Professor Z. Vilakazi (iThemba LABS, Cape Town, South Africa) as a new member of the PAC for Nuclear Physics, and Professor J. Wasicki (IP, Poznan, Poland) as a new member of the PAC for Condensed Matter Physics — for a term of three years. The Scientific Council thanked the outgoing member Professor P. Mikula for his very successful work in the PAC for Condensed Matter Physics.

Scientific Reports. The Scientific Council highly appreciated the reports «Perspectives of the Collaboration between the Oak Ridge National Laboratory (ORNL) and JINR in the Studies of Superheavy Elements» co-presented by Professor J. Roberto for ORNL and by Professor Yu. Oganessian for JINR, and thanked the speakers.

MEETINGS OF THE JINR FINANCE COMMITTEE

A meeting of the JINR Finance Committee was held in Dubna on 24–25 March. It was chaired by A. Tuleushev, representative of the Republic of Kazakhstan.

The Finance Committee took note of the report «Results of JINR's Activity in 2008, Plans of the Institute for 2009, and the Main Lines of the Seven-Year Plan for the Development of JINR for 2010–2016» presented by JINR Director A. Sissakian. The Committee appreciated the activity of the Institute Directorate for the implementation of the JINR Plan for Research and International Cooperation in 2008, noting with satisfaction the implementation of 104% of the budget in income in 2008.

The Finance Committee congratulated the international staff of JINR on the start-up of IREN-I — a new basic facility intended for investigations in the field of nuclear physics using the time-of-flight technique in the neutron energy range up to several hundred keV, and welcomed the intention of the IREN team to complete at the earliest possible time the precommissioning operations at IREN in order to start the first experiments in the second half of 2009.

The Finance Committee noted the successful operation of the JINR facilities in 2008 with a total running time of approximately 10 000 h according to schedule, as well as the progress in the implementation of the Nuclotron upgrade programme, in the preparation of the NICA Technical Design Report and the MPD Conceptual Design Report, as well as in the modernization of the complex of isochronous cyclotrons U400MR and U400 and of the IBR-2 reactor.

The Finance Committee endorsed the main lines of the next seven-year plan for JINR development pro-

JINR Prizes. The Scientific Council congratulated the laureates of the JINR prizes for 2008 — winners of the annual scientific research competition in the fields of theoretical physics, experimental physics, physics instruments and methods, and applied physics.

Elections and Announcement of Vacancies in the Directorates of JINR Laboratories. The Scientific Council elected by ballot Professor V. Kekelidze as Director of the Veksler and Baldin Laboratory of High Energy Physics (VBLHEP) and Professor E. Krasavin as Director of the Laboratory of Radiation Biology (LRB) for a term of five years.

The Scientific Council announced the vacancies of the positions of Deputy Directors of VBLHEP and LRB. The elections for these positions will take place at the 107th session of the Scientific Council.

posed for the years 2010–2016, based on the strategic provisions of the JINR road map and on the budget estimates for the future period, and took note of the information from the JINR Directorate that the total volume of financial resources envisioned by the approved budget forecast may be sufficient to ensure modernization of the existing basic facilities and construction of new facilities. It commissioned the JINR Directorate to submit the final version of this plan for approval to the Committee of Plenipotentiaries in November 2009.

The Finance Committee appreciated the work of the JINR Directorate to involve new partner countries in the activities of JINR; in particular, the conclusion of the government-level agreement with the Arab Republic of Egypt, and the signing of the Letter of Intent with the Republic of Hungary concerning intensification of joint basic and applied research at JINR, including the intention of the Republic of Hungary to consider the possibility of restoration of its full membership and to inform the JINR Directorate about this effort until the end of 2009.

The Finance Committee appreciated the extension of the Agreement between JINR and BMBF until the end of 2011 and welcomed the decision of the German side about the increase of the annual contribution of Germany to the JINR budget.

The Finance Committee noted the importance of the general agreement, signed in February 2009, between JINR and the Russian Research Centre «Kurchatov Institute» on further development of cooperation in the areas of basic and applied research, education, and innovations, and of the trilateral agreement between JINR, the Kurchatov Institute, and the International Association of Academies of Sciences concerning their partic-

ipation in the establishment of an International Innovation Centre for Nanotechnology.

Concerning the report presented by N. Matyukhin, an auditor of the company «MS-Audit», «Results of the Audit of the Institute's Financial Activity for the Year 2007», the Finance Committee recommended that the CP approve the auditors' report on the financial activity of JINR examined for the year 2007 and the JINR report for the year 2007 on the execution of the budget in expenditure — US\$51 827.4 thousand, with the summary account as of 01.01.2008 — US\$477 968.0 thousand, and thanked the company «MS-Audit» for the high quality of its audit work.

Based on the report presented by V. Katrasev, Assistant Director of JINR for Financial and Economic Issues, «Execution of the JINR Budget in 2008», the Finance Committee recommended that the CP take note of the information on the execution of the JINR budget in 2008 in expenditure — US\$60 143.6 thousand, in income — US\$58 298.2 thousand. It was also recommended that the CP empower the company «MS-Audit» to examine the Institute's financial activity for the year 2008 and approve the plan for auditing this activity, presented by the JINR Directorate.

The Finance Committee thanked V. Shvetsov, Deputy Director for Research of the Frank Laboratory of Neutron Physics, for the informative scientific report «The IREN-I Facility: Status and Prospects», presented at this meeting.

A meeting of the JINR Finance Committee was held in Dubna on 29–30 October. It was chaired by A. Tuleushev, representative of the Republic of Kazakhstan.

The Finance Committee considered the report «The Seven-Year Plan for the Development of JINR for 2010–2016» presented by JINR Director A. Sissakian, endorsed it and recommended the plan for approval by the Committee of Plenipotentiaries (CP) in November 2009. The Finance Committee noted with satisfaction the successful implementation of the recommendations of the Scientific Council concerning the scientific programme of JINR, the upgrade of the basic facilities, and the construction of new facilities. It also appreciated the significant scientific accomplishments of JINR scientists in 2009 in the fields of particle physics, nuclear physics, and condensed matter physics, as well as the progress in the areas of information technology, educational programme, and innovative developments.

The Finance Committee highly appreciated the efforts of the JINR Directorate for the further development of partnership programmes with the Member States and other countries, in particular the conclusion of the government-level agreement with the Arab Republic of Egypt and the extension of the Agreement between JINR and the Federal Ministry of Education and Research of Germany until the end of 2011.

The Finance Committee noted that due to the efforts of the Member States the implementation of the JINR budget in the past several years had been achieved at the level of 100% of the planned budget, making it possible to realize the current scientific programme. It also emphasized the importance of the annual increase of the budget in 2010–2016, planned according to the budget forecast approved by the CP, for achieving the milestones of the development strategy for the next seven-year period.

Based on the report «Draft Budget of JINR for the Year 2010 and Draft Contributions of the Member States for the Year 2011. Financial Support for the Seven-Year Plan for the Development of JINR for 2010–2016», presented by V. Katrasev, Assistant Director of JINR for Financial and Economic Issues, the Finance Committee recommended that the CP approve the JINR budget for the year 2010 with the total expenditure amounting to US\$82.912 million and the contributions of the Member States for the year 2010.

The Finance Committee recommended that the CP adopt for the period from 2011 to 2013, as an interim version, the principle of determination of the Member States' contributions to the JINR budget in proportion to the annual growth of the Institute's budget proposed by the JINR Directorate and the Working Group for financial issues of JINR under the CP Chairman. It also recommended that the CP determine the updated provisional volume of the JINR budget in income and expenditure for the year 2011 amounting to US\$98.71 million and for the year 2012 amounting to US\$117.61 million, and that the CP adopt the updated provisional sums of the Member States' contributions and of arrears payments for the years 2011 and 2012.

With a view to planning the contributions to the JINR budget for the year 2013 and taking into account the organization of budget process in the Russian Federation — the host country of the Institute — and in some other Member States, the Finance Committee recommended that the CP determine the provisional volume of the JINR budget in income and expenditure for the year 2013 amounting to US\$137.14 million and that the CP adopt the provisional sums of the Member States' contributions and of arrears payments for the year 2013.

In accordance with the recommendations of the Working Group for financial issues of JINR under the CP Chairman, the Finance Committee recommended that the CP postpone for the year 2013 the taking of the decision concerning the payment of Member States' arrears which occurred during 2002–2003 and that the CP commission the Working Group to continue work to prepare proposals on the payment of these arrears and on the further improvement of the principles and methods of calculation of the Member States' contributions to the JINR budget.

The Finance Committee noted that the annual budget plans for the period 2010–2016, calculated accord-

ing to the budget forecast approved by the Committee of Plenipotentiaries, ensure the expenditures presented by the Directorate in the Draft Seven-Year Plan for the Development of JINR for 2010–2016.

With a view to attracting investments for the development of the Institute's construction and maintenance

infrastructure, the Finance Committee recommended that the CP allow the establishment, based on the JINR Repair and Construction Site, of a legal entity with the participation of JINR and of an interested investor, contributing to the statutory capital a share of fixed property of the Institute.

MEETINGS OF THE JINR PROGRAMME ADVISORY COMMITTEES

The 29th meeting of the Programme Advisory Committee for Nuclear Physics was held on 22–23 January. It was chaired by Professor W. Greiner.

The PAC was informed about the implementation of the recommendations taken at the previous meeting, about the resolution of the 104th session of the JINR Scientific Council (September 2008), about the decisions of the JINR Committee of Plenipotentiaries (November 2008 session), and about the preparation of the Seven-Year Plan for the Development of JINR for 2010–2016.

The PAC discussed the reports on two DLNP research themes, the report on start-up of the IREN facility, the proposals of the Laboratories and UC into the Plan for the Development of JINR for 2010–2016, considered the status of the EDELWEISS experiment and the research programme at the LEPTA facility. The Committee also heard the scientific report «Chemistry of Superheavy Elements: Achievements and Prospective» presented by R. Eichler. The PAC made the following recommendations on the considered questions.

Themes to be Completed in 2009. The PAC discussed in detail the reports on two themes of the Dzhelepov Laboratory of Nuclear Problems, previously approved for completion in 2009. Concerning the first theme, the PAC particularly appreciated the new results on $2\nu\beta\beta$ decays and the new upper limits on $0\nu\beta\beta$ decays obtained by the NEMO-3 experiment with the participation of JINR scientists. The next step in preparation will be the SUPER-NEMO experiment with greatly increased sensitivity for the search and registration of the neutrinoless beta decay.

The PAC noted the excellent progress made in the preparation of the GERDA experiment at the Gran Sasso underground laboratory (Italy) to study $0\nu\beta\beta$ decay using germanium detectors with enriched ^{76}Ge isotope, whose first stage is due to start in 2009, as well as in the LESI project aimed at measurements of the astrophysical S factors and effective cross sections of pd and dd reactions.

In the GEMMA experiment, carried out with DLNP's participation, with Ge detectors in the neutrino flux from the Kalinin Power Plant, an excellent new upper limit has been reached for the antineutrino magnetic moment. In the BAIKAL project experiments,

400 events from local neutrino sources have been observed, and the record limits for neutrino flux from WIMP annihilation have been found as well for the flux of diffused neutrino above 10 GeV.

Concerning the second theme — «Nucleus and Particle Interactions at Intermediate Energies», the PAC was impressed by the progress achieved and by the wide range of DLNP studies of pion and muon rare decays, of the production of light mesons in proton–proton and proton–neutron collisions, of cumulative proton–nucleus interactions, and of the interaction of slow pions with light nuclei. The PAC noted the importance of the first experimental observation of single γ production and of the Δ -resonance production in pion interactions with the ^4He nucleus at an energy well below the pion production threshold. It also stressed the importance of intermediate-energy physics, to which the Dubna groups contribute in a significant way.

Based on the results of the discussion, the PAC recommended closing these themes and continuing these programmes within new themes: «Non-Accelerator Neutrino Physics and Astrophysics» (projects NEMO, GERDA-MAJORANA, GEMMA, EDELWEISS-II, BAIKAL, and LESI) and «Physics of Light Mesons» (projects SPRING, PEN-MEG, PAINUC) in the years 2010–2012 with first priority.

Start-up of the IREN Facility. The PAC noted that in December 2008 the accelerated electron beam with the energy 20 MeV and peak current 0.4 A was delivered to the experimental prototype tungsten target. Neutrons, produced at interaction of the bremsstrahlung gamma radiation with target, were registered by means of the neutron proportional counter. The results proved experimentally the earlier calculated parameters of the IREN Phase I.

The PAC recommended that the FLNP and VBLHEP groups complete as soon as possible the pre-commissioning operations at the IREN facility and start the first experiments in the second half of this year.

Plan for the Development of JINR for 2010–2016. The PAC heard the proposals of the scientific investigations and development of BLTP, DLNP, LIT, FLNP, FLNR and the UC for the next seven years and recommended including them in the Plan for the Development of JINR for 2010–2016.

EDELWEISS Experiment. The PAC heard with interest the status report on the EDELWEISS experiment on the direct search of dark matter in WIMP or neutralino forms. The DLNP group participates very actively in the preparation of the experiment, especially in construction of the set-up, investigation of low-energy background discrimination, and its calibration. The PAC recommended that the EDELWEISS project be continued by DLNP with highest priority.

Research Programme at the LEPTA Facility. The PAC heard with interest the report «Research Programme at the LEPTA Facility» and recognized the fundamental character of the experimental studies with positronium in-flight. Significant progress has been achieved in this activity, including the increase of the lifetime of the beam, completion of the injector construction, and the delivery of positron source of high radioactivity from iThemba LABS (South Africa). The PAC recommended completion of the construction of the LEPTA facility and preparation of first experiments with ortho-positronium in-flight.

The 29th meeting of the Programme Advisory Committee for Condensed Matter Physics was held on 26–27 January. It was chaired by Professor V. Kantser.

The Chairperson V. Kantser welcomed the PAC members and presented the implementation of the recommendations of the previous PAC meeting. JINR Vice-Director R. Lednický informed the PAC about the Resolution of the 104th session of the Scientific Council (September 2008), the decisions of the Committee of Plenipotentiaries (November 2008 session), and about the preparation of the Seven-Year Plan for the Development of JINR for 2010–2016.

The PAC took note of the report, presented by A. Ruzaev, about the current status of the International Innovation Centre for Nanotechnology of the CIS countries and planned activities in its near future perspective. The PAC considers it appropriate to use the opportunity of JINR as an international centre to accelerate the start-up of the activity of the Centre for Nanotechnology.

The PAC was informed by A. Vinogradov about the progress of the modernization of the IBR-2 reactor and was pleased to note that this work is proceeding well and according to the schedule; it also supported the reported plan concerning the technical work and the financing for 2009.

The PAC took note of the report on the general guidelines of the user programme for the spectrometers complex of IBR-2M, presented by D. Kozlenko. The realization of the user programme in future will require an increase of the international cooperation budget of the relevant scientific themes of FLNP after the IBR-2M start-up. The PAC suggested that the FLNP Directorate ensure that information about the commissioning of all the spectrometer facilities is discussed well in advance in appropriate forms.

The PAC was informed by M. Avdeev about the status of the GRAINS project on the construction of a new multifunctional reflectometer with horizontal sample plane at channel 10 of the IBR-2M reactor. It appreciated the reported progress in the project realization and noted that for the successful start-up of the first instrument configuration in 2011 the funding should be provided in accordance with the presented plan.

The PAC noted with interest the report by Ch. Scheffzuek on the modernization of the former beam line 7A at the IBR-2M for the diffractometers EPSILON-MDS and SKAT, which attested the progress of the work as scheduled.

The PAC considers it necessary to elaborate the plan of modernization and updating of the complex of spectrometer facilities, regarding this as the second important stage in the many years' activities of the modernization of IBR-2M-based equipments for modern condensed matter physics neutron investigations. It recommended using as the basis of the plan the first priorities in the development of spectrometers for the IBR-2M reactor — DN-6, GRAINS, SKAT/EPSILON, which had been approved at the previous meeting. Moreover, the PAC considers it important to provide all the existing spectrometers with the necessary resources to allow reliable user operation at the start-up of the reactor.

The PAC heard with interest the scientific reports: «Study of the Mitochondrial Membrane Structure by Small-Angle Neutron Scattering», presented by T. Murugova, «New Approach to the Strongly Correlated Electron Systems», presented by E. Kochetov, «In Situ and Postradiation Analysis of Mechanical Stress in Alumina Induced by Swift Heavy Ion Irradiation», presented by V. Skuratov, and «Mathematical Modeling of Mutational Process in Bacterial Cells under Ultraviolet Irradiation», presented by O. Belov. The PAC was also impressed by the poster presentations by LRB young scientists in the various aspects of radiation biology.

The PAC supported the general lines of the seven-year programme for the development of condensed matter studies at the Frank Laboratory of Neutron Physics, presented by A. Belushkin. The FLNP staff should concentrate efforts on the start-up of the complex of cryogenic moderators and on the development of modern spectrometers on their basis, and on the identification of new research areas compatible with new IBR-2M facilities.

The PAC supported the plan of theoretical investigations at the Bogoliubov Laboratory of Theoretical Physics, presented by V. Priezzhev.

The PAC appreciated the scientific novelty and relevance to the general objectives of JINR of the conceptual proposals of the Laboratory of Radiation Biology, presented by E. Krasavin, and noted the importance of the acquisition by JINR of a confocal CARS microscope as JINR's interlaboratory instrument for research in the fields of biology, chemistry, nanotechnology, etc.

The PAC recognized the quality of the proposed research activities of the Flerov Laboratory of Nuclear Reactions in the areas of condensed matter physics and nanomaterials, presented by P. Apel. The Laboratory should continue its activity on the implantation-based synthesis of nanostructural materials, on the production of unique radioisotope, and on the track-membrane-based innovations.

The PAC supported the seven-year plan of the University Centre, presented by its Director D. Fursaev.

The PAC took note of the information about the Advanced Courses for CIS countries «Synchrotron and Neutron Studies of Nanosystems» (SYN-nano) (7–26 July 2008, Moscow–Dubna), presented by M. Avdeev, and about XX International Workshop on Neutron Scattering in Condensed Matter Investigations (NSCMI-2008) (13–19 October 2008, Gatchina), presented by A. Balagurov, and recommended the regular holding, once a year, courses or schools on nuclear physics aspects of nanotechnology with representation from all the JINR Member States.

The 30th meeting of Programme Advisory Committee for Particle Physics was held on 29–30 January. It was chaired by Professor J. Nassalski.

The PAC was informed by JINR Vice-Director R. Lednický about the Resolution of the 104th session of JINR Scientific Council (September 2008), about the decisions of the JINR Committee of Plenipotentiaries (November 2008 session), and about the preparation of the Seven-Year Plan for the Development of JINR for 2010–2016.

The PAC welcomed the decision of the Committee of Plenipotentiaries (CP) to increase the JINR budget by 22.8% in 2009 and the decision of the CP to address the governments of the Member States with a proposal to make provisions for an increase of the JINR budget in 2011–2015 (tentatively 2.5 times by the year 2015 relative to the level of the year 2010) with a view to creating an in-house facility base attractive to the Member States and the world scientific community.

The PAC noted that the Committee of Plenipotentiaries regards as important and timely the decision of the JINR Directorate to prepare a plan for the development of JINR for the years 2010–2016 in view of the completion, this year, of the current seven-year «Programme of the Scientific Research and Development of JINR». The PAC looks forward to being presented the draft report documenting this programme well in advance of its next meeting. The PAC also noted the main lines of the JINR Programme of Particle and Relativistic Nuclear Physics Research proposed by the Laboratories for the period 2009–2011 in accordance with the updated JINR road map.

The PAC supported the recommendation of the Scientific Council concerning the Nuclotron-M/NICA project on the necessity of creating a well-developed, detailed plan for realization of this project, and looks

forward to a report on progress in this direction from the Chairperson of the Machine Advisory Committee (MAC) for Nuclotron-M/NICA at a future session.

The PAC heard with interest the report on progress towards realization of the Nuclotron-M project, presented by JINR Deputy Chief Engineer G. Trubnikov, and the report by the Chairman of the MAC for the Nuclotron-M/NICA accelerator complex Professor B. Sharkov (ITEP, Moscow), in particular his written review on the progress in the realization of the Nuclotron-M project. Highly respecting the pool of expertise constituted by the MAC and appreciating the work it is carrying out, the PAC recommended a face-to-face review of the proposed plan and design for Nuclotron-M/NICA at the earliest appropriate time and looks forward to a report from the Chairperson of the MAC on the results of this review at its next meeting.

The PAC noted the information presented by BLTP Deputy Director A. Sorin on the ongoing preparation of a white paper on the mixed phase and potential future spin physics programmes at NICA, and looks forward to receiving, prior to its next meeting, the results of initial simulations toward a conceptual design report for MPD which documents what compelling scientific questions will be answered by the proposed programme, and what machine parameters are critical to achieve scientific success.

The PAC noted the recommendation of the Scientific Council concerning the increase of the budget required to complete the creation of student laboratories in the JINR University Centre (UC), and to enlarge the number of PhD students. It also welcomed the signing of the contract between JINR and the Russian State Enterprise «Space Communication» for creation of a high-speed communication channel Dubna–Moscow.

The PAC highly congratulated physicists from the Dzhelapov Laboratory of Nuclear Problems who, together with the American colleagues within the DO project, collaborated on scientific analysis leading to the first observation of the Ω_b baryon. This discovery has been ranked among the ten most significant achievements in physics in 2008 by the American Physical Society.

The PAC noted with interest the information, presented by V. Zhabitsky, about the ongoing work towards the start-up of the world's largest accelerator — the Large Hadron Collider (LHC) at CERN. It also considered the status report on JINR's participation in the CLIC project, noting the importance of this activity for the future JINR projects in high-energy physics.

The PAC strongly reiterated that the JINR scientists participating in CMS, ATLAS, and ALICE should play a leading role in the production of new science from these experiments in which JINR, Russia, and the other Member States have invested heavily and successfully made major contributions. The PAC looks forward to

a report at its next meeting on the work by the JINR ALICE, ATLAS, and CMS groups toward the start of data taking and processing, on the physics research programmes to be carried out by the JINR teams, and on future plans for upgrades of the LHC detectors.

The PAC recommended continuation of the activities on the projects ALICE, ATLAS, CMS, pHe3, ALPOM, OKAPI, HADES, NIS, Med-Nuclotron, «Development of Accelerators for Radiation Technologies» and on the theme «Development of Particle Detection Methods Based on Thin-Wall Drift Tubes for Precision Coordinate Measurements at High Luminosity» until the end of 2009; on the projects DIRAC, TUS and the theme «Study of e^+e^- Interactions, Physics and Detectors» — until the end of 2011.

The PAC noted with interest the report presented by G. Trubnikov on the progress for ongoing developments at JINR related to the ILC. The PAC feels strongly that in order for JINR to be competitive as a potential host laboratory for the ILC, a proactive team including scientists and engineers must work intensively to further document the viability and attractiveness of siting the ILC in the Moscow Region with JINR as a host.

The PAC considered the reports on the themes «Dubna International Advanced School of Theoretical Physics (DIAS-TH)» and «Organization, Maintenance and Development of the University-Type Educational Process at JINR». It recommended closing them and gave approval for opening new themes: «Research and Education Project "Dubna International Advanced School of Theoretical Physics (DIAS-TH)"» and «Organization, Support and Development of the Education Process at JINR» for execution until the end of 2013.

The PAC considered the written report on the project «Modernization of the Polarized Proton Target» and recommended closing this project and continuing this activity within the framework of the theme «Search for Non-Nucleon Degrees of Freedom and Spin Effects in Few-Nucleon Systems». It also considered the written report on JINR's participation in the PHENIX project and recommended that the JINR Directorate close this work. The PAC recognized the positive contribution of the JINR group to this experiment.

The PAC congratulated the Director of the JINR UC, D. Fursaev, on having been elected Rector of the International University «Dubna».

The PAC assigned priorities in the JINR Programme of Particle Physics Research for the year 2009.

The 31st meeting of the Programme Advisory Committee for Particle Physics was held on 10–11 June. It was chaired by Professor J. Nassalski.

The PAC was informed by JINR Vice-Director R. Lednický about the Resolution of the 105th session of JINR Scientific Council (February 2009), the decisions of the JINR Committee of Plenipotentiaries (March 2009), and about the preparation of the draft

Seven-Year Plan for the Development of JINR for 2010–2016.

The PAC concurred with the high appreciation, by the Committee of Plenipotentiaries, of the work of JINR teams in the external experiments, in particular, on neutrino physics (NEMO-3), on charged kaon decays (NA48/2, CERN), and on the detection of a new particle — the Ω_b baryon (D0, FNAL).

The PAC highly appreciated the active work of the JINR Directorate to involve new partner countries in the activities of JINR. It noted with satisfaction the recent conclusion of the government-level agreement with the Arab Republic of Egypt and the signature of the Letter of Intent with the Republic of Hungary concerning intensification of joint basic and applied research at JINR as well as the intention of the Republic of Hungary to consider the possibility of restoration of its full membership at JINR.

The PAC noted the importance of the general agreement, signed in February 2009, between JINR and the Russian Research Centre «Kurchatov Institute» on further development of cooperation in the areas of basic and applied research, education, and innovations, and of the trilateral agreement between JINR, the Kurchatov Institute, and the International Association of Academies of Sciences concerning their participation in the establishment of an International Innovation Centre for Nanotechnology.

The PAC appreciated the extension of the Agreement between JINR and the Federal Ministry of Education and Research (BMBF) of Germany until the end of 2011 and welcomed the decision of the German side about the increase of the annual contribution of Germany to the JINR budget.

The PAC took note of the draft Seven-Year Plan for the development of JINR for 2010–2016 in the field of particle physics research presented by Vice-Director R. Lednický. The Committee appreciated the large amount of work accomplished by the JINR Directorate to elaborate a competitive long-term programme of the Institute. It looks forward at its future meetings to regular progress reports concerning implementation of the seven-year plan. The PAC recommended that the JINR Directorate take into account the remarks and suggestions made at this session for preparing the final version of the seven-year plan to be presented at the next session of the Scientific Council.

Concerning the report on the progress towards realization of the Nuclotron-M/NICA projects presented by JINR Deputy Chief Engineer G. Trubnikov, the PAC appreciated the significant advances that have been made in upgrading the VBLHEP accelerator complex and in the preparation of the NICA project. It also noted that several new external laboratories are prepared to sign the MoU concerning the realization of the project. The PAC recommended that the JINR Directorate provide the required funding for the Nuclotron-M

project stages (especially, modernization of the experimental test benches and engineering infrastructure) in accordance with the programme and time schedule for the successful completion of this project.

The PAC took note of the report from the Chairman of the Machine Advisory Committee for the Nuclotron-M/NICA accelerator complex, Professor B. Sharkov (ITEP, Moscow), presented by JINR Deputy Chief Engineer G. Trubnikov. The PAC appreciated the progress achieved in the realization of this project and supported the efforts of VBLHEP and of the whole Institute aimed at the creation of the Nuclotron-M/NICA accelerating complex. The PAC recommended that the JINR Directorate consolidate the manpower and financial resources on the NICA realization steps in order to keep the project schedule and support the R&D work related to the design and construction of the future complex elements.

Concerning the report presented by BLTP Deputy Director A. Sorin on the ongoing preparation of a white paper for the NICA/MPD programme on the mixed phase and spin physics, the PAC noted the progress achieved in this direction, the noticeable effort to internationalize this activity, and recommended continuation of the work to elaborate a competitive research programme in view of its complementarity with studies planned at CERN, RHIC, and FAIR.

The PAC appreciated the first draft of the Conceptual Design Report for the MPD detector presented by VBLHEP Acting Director V. Kekelidze, and congratulated the MPD development team on producing a professional, well-organized document. The team was encouraged to continue this activity to completion prior to the next meeting of the Scientific Council. The PAC endorsed the proposed concept, supported the strategy of stage-by-stage construction of this detector, and noted the necessity of a critical assessment of the physics ideas presented in the white paper for simulations of the relevant physics channels. The PAC recommended that the JINR Directorate support the activity for MPD construction and for preparation of a compelling research programme for this experiment. The Committee looks forward to an integrated plan for the location of the MPD detector by the end of 2009.

The PAC was pleased to note the report on the proposal to begin consolidation of the VBLHEP physics programme presented by VBLHEP Acting Director V. Kekelidze. The Committee endorsed the proposal of the Laboratory to consolidate its physics programme and recommended that the JINR Directorate support the implementation of this programme. The PAC appreciated the large amount of work done on the preparation of the scientific research programmes at the JINR basic facilities and at the world's largest accelerator centres. It also noted the incentives in progress directed to attract physicists to the NICA/MPD project.

The PAC noted with interest the report presented by JINR Chief Engineer G. Shirkov on the progress for

ongoing developments at JINR related to the ILC which were centered on the geological investigation of the ILC possibly being sited in the Moscow Region. The Committee emphasized strongly that to maximize the possibility of the ILC being sited in the Moscow Region, a continuous vigorous effort by the JINR Directorate is necessary to establish the ILC as a Russian national priority through dialogue with the Russian national authority. The PAC recommended that the important work being carried out at JINR be highly visible to the ILC GDE.

The PAC highly appreciated the LIT activity on the commissioning of the high-speed 20 Gbps JINR–Moscow telecommunication channel and noted the availability of the implemented technological solutions for the further extension of the channel bandwidth. The Committee welcomed the realization by LIT of the plans to increase the performance of the JINR Central Information and Computing Complex (CICC) up to 2200 KSI2K and the data storage capacity up to 400 TB. It also appreciated the large amount of work accomplished to optimize the CICC network infrastructure and noted the results obtained in testing of this infrastructure within the preparation for real data processing in the LHC experiments.

Concerning the information about readiness of the JINR groups participating in the ALICE, ATLAS, and CMS experiments for data taking and analysis, the Committee noted the presence of PhD and diploma students and encouraged the groups to attract further students. The PAC looks forward at the next meeting to receiving documented projects for JINR's further participation in the ALICE, ATLAS, and CMS experiments.

The PAC recommended approval of the proposals of the new projects NA62, «Strangeness in Nucleons and Nuclei (HyperNIS)», «Deuteron Spin Structure (DSS)», ALPOM-2, and «Development of Prototype Units for a Complex of Carbon Radiotherapy» for execution until the end of 2012.

The PAC recommended continuation of the activities on the projects OPERA, BOREXINO, SANC and «Preparation of Proposals for JINR's Participation in the Design, Manufacturing and Testing of the Prototypes of Linear Collider Elements» until the end of 2012.

Concerning the written reports on JINR's participation in the projects HERMES and H1, the PAC supported the VBLHEP proposal to complete the HERMES and H1 data analysis under the theme «Study of the Nucleon and Baryon Structure at CERN (COMPASS) and DESY (HERMES, H1)».

The PAC recommended closing the KLOD project for the sole reason that concrete financing and a schedule for implementing this project cannot be defined now due to the absence of the necessary quality of kaon beams at the U-70 accelerator (Protvino).

The 30th meeting of the Programme Advisory Committee for Nuclear Physics was held on 22–23 June. It was chaired by Professor W. Greiner.

The PAC was informed by JINR Vice-Director M. Itkis about the Resolution of the 105th session of JINR Scientific Council (February 2009), the decisions of the JINR Committee of Plenipotentiaries (March 2009), and about the preparation of the Seven-Year Plan for the Development of JINR for 2010–2016.

The PAC highly appreciated the efforts taken by the JINR Directorate to develop scientific cooperation with the Member States and other partner countries. It also appreciated the large amount of work accomplished by the Directorate to elaborate a competitive programme of the development of JINR for the next seven years.

The PAC discussed in detail the report on the closing theme «Synthesis of New Nuclei and Study of Nuclear Properties and Heavy-Ion Reaction Mechanisms» and the scientific programme of the Flerov Laboratory of Nuclear Reactions proposed for the next five years. The PAC noted the significance and high efficiency of the research performed at this Laboratory, particularly: the synthesis and/or discovery of 6 new elements ($Z = 112, 113, 114, 115, 116, \text{ and } 118$) and of 34 new heavy nuclides, the pioneering experimental results on the study of the chemical properties of superheavy elements 112 and 114, the remarkable work done on the studies of fusion–fission and quasifission aimed at determining the entrance channel properties better suited for the synthesis of superheavy elements as well as the impressive results obtained in the study of the structure of light neutron-rich nuclei near and beyond the drip line. The PAC recommended completion of this theme by the end of 2009 and continuation of the studies within the new theme «Synthesis and Properties of Nuclei at the Stability Limits» for the period 2010–2014 with first priority.

The PAC took note of the report on the closing themes «Development of the FLNR Cyclotron Complex for Producing Intense Beams of Accelerated Ions of Stable and Radioactive Isotopes» and «Development and Construction of the Accelerator Complex for Producing Radioactive Ion Beams (Project DRIBs)». The Committee highly appreciated the results achieved within these two accelerator topics, including the successful completion of the work for the DRIBs-I project and the success in developing of superconducting electron cyclotron resonance ion sources at the Flerov Laboratory of Nuclear Reactions, and reiterated the need for construction of a high-intensity accelerator of heavy ions, in particular, to provide acceleration of ions from carbon to uranium up to the energy range 5–10 MeV/n with stepwise and smooth variation. The PAC recommended completion of these two themes by the end of 2009 and approval of a new FLNR accelerator-related theme — «Accelerator Complex of Ion Beams of Stable and Radioactive Nuclides (DRIBs-III)» for the period 2010–2014 with first priority.

Concerning the report on the results of numerous activities within the closing theme «Improvement and Development of the JINR Phasotron for Fundamental and Applied Research», the PAC emphasized the importance of the medical, biological and clinical research for cancer treatment with proton beams at the JINR Phasotron and appreciated the efforts of DLNP accelerator physicists focused on the design and improvement of cyclotrons for hadron therapy applications. The PAC recommended completion of this theme by the end of 2009 and continuation of this programme within the new theme «Improvement of the JINR Phasotron and Development of Cyclotrons for Fundamental and Applied Research» in 2010–2012 with first priority.

Projects under the New Theme «Non-Accelerator Neutrino Physics and Astrophysics». The PAC considered a report on a number of DLNP projects aimed at studies in the fields of neutrino physics, dark matter, and astrophysics, and noted the significant progress achieved in recent years in the investigation of neutrino masses, especially in double-beta searches of elements ^{76}Ge , ^{100}Mo , and ^{82}Se , in the search for a neutrino magnetic moment and for dark matter signals, as well as in the measurement of basic cross sections for pd and dd reactions at the lowest energies, important for understanding the burning of the Sun and the stars. The PAC recommended supporting the projects NEMO-3 (SUPERNEMO), EDELWEISS-II, GERDA&MAJORANA, GEMMA-II, and LESI in 2010–2012 with first priority.

Projects under the New Theme «Physics of Light Mesons». The PAC recognized the fundamental importance of polarization studies proposed in the SPRING project which combines investigations of short-range NN properties using the ANKE facility at COSY and preparatory work for the future PAX experiment at GSI/FAIR. The PAC heard with interest the information on DLNP's participation, under the PEN-MEG project, in two ambitious experiments at PSI on decays $\pi^+ \rightarrow e^+\nu$ and $\mu^+ \rightarrow e^+\gamma$ which will provide a precision test of $\mu - e$ universality and a search for new physics beyond the Standard Model. The Committee also heard with interest the information on the PAINUC programme of studies of pion interactions with helium nuclei at intermediate pion energies (below the Δ -resonance) which may reveal whether the production of single γ s in $\pi^{\pm 4}\text{He}$ interactions depends on the incident pion energy and whether there is influence of the nuclear matter density on the Δ -resonance excitation. The PAC emphasized the importance of the SPRING, PEN-MEG, and PAINUC projects for the research programme of DLNP and recommended their approval for 2010–2012 with first priority.

Concerning the report on the experimental study of the dynamics of thermal nuclear multifragmentation performed with the modified 4π set-up FASA-3 at the Nuclotron beam under the theme «Research on Rela-

tivistic Heavy- and Light-Ion Physics», the PAC appreciated the results obtained in this programme and recommended its continuation in 2010–2011.

The PAC was particularly pleased with the presentations of new results and proposals by young scientists in the field of nuclear and particle physics research and recommended that this type of presentations be continued in future. The PAC appreciated the fact that direct responsibilities for set-ups and data analysis have been given to young scientists. This is an important move to increase their confidence and to guarantee their strong future involvement in research.

The 30th meeting of the Programme Advisory Committee for Condensed Matter Physics was held on 25–26 June. It was chaired by Professor V. Kantser.

The Chairperson of the PAC welcomed the Committee members and presented a short overview of his report delivered at the session of the JINR Scientific Council (February 2009) and information about the implementation of the recommendations of the previous PAC meeting. JINR Vice-Director M. Itkis informed the PAC about the Resolution of the 105th session of the Scientific Council (February 2009), the decisions of the Committee of Plenipotentiaries (March 2009), and about the preparation of the Seven-Year Plan for the Development of JINR for 2010–2016. The PAC was pleased to note that all the milestones of the JINR research in the areas of condensed matter physics have been reflected in the presented draft of the plan.

The PAC noted with interest the report by G. Mitsyn on the closing theme «Further Development of Methods and Instrumentation for Radiotherapy and Associated Diagnostics with the JINR Hadron Beams». The Committee welcomed the efforts taken by the JINR Directorate for the establishment in Dubna of a Centre for Radiation Medicine as well as the collaboration with the Belgian company IBA in the development of advanced technologies in the proton therapy field, and recommended continuation of the activities within the new theme «Medical and Biological Research with the JINR Hadron Beams» in 2010–2012.

The PAC heard a report presented by A. Vinogradov about the work already accomplished on the modernization of the IBR-2 reactor and about the main goals to be achieved in 2009, and was pleased to note that this work is proceeding in accordance with the technical and financial plans. The PAC supported the technical and financial activities planned for the year 2009. It also recommended arranging a visit of the PAC members to the IBR-2 reactor in order to familiarize them on site with the modernization work underway at FLNP.

The PAC took note of the report presented by D. Kozlenko on the modernization of the spectrometer complex of the IBR-2M reactor in the short-term (three years) and long-term (seven years) periods. The PAC noted the importance of concentration of the available resources on the first-priority instruments (DN-6, GRAINS, SKAT/EPSILON) and supported the plans of the FLNP Directorate concerning further development of instruments at this Laboratory.

The PAC took note of the report presented by S. Pakuliak on the perspective of development of the JINR University Centre (UC) in 2010–2016. The PAC welcomed the UC's efforts to establish bilateral agreements with educational bodies of the Member States with a view to having the UC courses and activities formally recognized, as well as the collaboration of the UC with the Plenipotentiaries of the Member States in the development of a special system of scholarships/grants in order to engage students from a larger number of Member States to the postgraduate studies at JINR. The Committee recommended intensification of contacts with the Plenipotentiaries with a view to organizing regular visits to the UC of natural science teachers and school pupils from the Member States.

The PAC heard the following scientific reports: «Interfaces in Amphiphilic Systems» presented by M. Belushkin, «Response of Mice Retina to Exposure of γ -Irradiation, Accelerated Protons, and N-nitroso-N-methylurea» presented by M. Loguinova, «Crystallographic Preferred Orientation and Properties of Quartz: a Neutron Diffraction Study of Earth's Crust Rocks» presented by R. Vasin, and «Modeling the High Critical Temperature Superconducting Phase Transition in Cuprates within the Two-Band Hubbard Model» presented by Gh. Adam.

The PAC heard the information presented by V. Krylov about the 1st, 2nd, and 3rd International Workshops «Molecular Simulation Studies in Material and Biological Sciences» (MSSMBS: 2004, 2006, 2008) which are regularly organized at JINR. The Committee was impressed by the MSSMBS scientific programmes that reflect the present status and future possibilities of computer and molecular modeling in materials and life sciences, and recommended further regular holding of these workshops.

The PAC was especially pleased with the poster presentations by young scientists from LIT, DLNP, and BLTP in the fields of physics, biology, nanotechnology, and software development, and with the concluding reports presented by V. Ivanov and G. Mitsyn. The Committee appreciated the increased number of high-quality scientific reports and poster presentations and recommended that these activities be continued.