

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 14–15 March. It was chaired by the Plenipotentiary of the Government of the Republic of Azerbaijan to JINR, M. Kerimov.

The plenipotentiaries considered and discussed the report «Major Results of JINR's Activity in 2007» presented by JINR Director A. Sissakian. The Committee of Plenipotentiaries (CP) resolved to approve the activity of the Institute Directorate for the implementation of the JINR Plan for Research and International Cooperation in 2007, noting the achievement of 100% of the planned budget in 2007.

The CP highly appreciated the efforts being taken by the directorates of JINR and its laboratories towards accomplishing the upgrade of the Institute's basic facilities and constructing new facilities; noted the operation of the facilities in 2007 with a total running time of approximately 10 000 hours; noted the successful upgrade of the U400M cyclotron performed in 2007, which is essential for the acceleration of low-energy beams at this facility, as well as the beginning of the Nuclotron upgrade programme and the progress in modernizing the IBR-2 reactor. The Committee noted with satisfaction the resumption of the hadron therapy programme at the Phasotron and the planned commissioning of Phase I of the IREN facility in late 2008.

The CP approved the efforts by the JINR Directorate towards the optimization of the scientific programme of the Institute and on the update of the road map of its strategic development, in particular concerning the elaboration of the home research programme in the fields of heavy-ion physics at high and low energies and of condensed matter physics with nuclear methods.

The Committee addressed the governments of the Member States with a proposal to make provisions for an increase of the JINR budget in 2011–2015 (tenta-

tively 2.5 times by the year 2015 against the level of the year 2010) with a view to creating an in-house facility base, attractive to the Member States and world scientific community (Nuclotron-M and NICA/MPD, DRIBS-III, and a complex of state-of-the-art neutron spectrometers for the modernized reactor IBR-2M), for conducting fundamental and applied research in line with road map, endorsed by the JINR Scientific Council and Committee of Plenipotentiaries. The CP commissioned the JINR Directorate to prepare, by June 2008, a draft letter with the proposal and the corresponding scientific and economic substantiation.

The CP recognized the achievements of JINR scientists in implementing the research programme in 2007. Particularly:

— the continuation of the traditional trends in the studies carried out at the Flerov Laboratory of Nuclear Reactions, in particular the investigations of chemical properties of superheavy elements, of properties of transfermium elements, light exotic nuclei near and beyond the drip line, and the development of the accelerators and main experimental set-ups of the Laboratory. Assembling the new experimental set-ups at the U400M cyclotron will ensure non-stop experiments to study superheavy elements during the modernization of U400 expected at the end of 2009;

— the progress of the work to modernize the IBR-2 reactor, which is under way according to the approved schedule and is due to the commitment and high sense of responsibility of the reactor team, as well as to the comprehensive support given by the FLNP and JINR directorates to the modernization programme. The CP noted the high level of activities in condensed matter sciences pursued by FLNP research groups, in spite of the shut-down of the IBR-2 reactor for modernization. In 2007, through collaboration with external laboratories, important scientific results were obtained in the fields of complex magnetic oxides, magnetic fluids,

multilayer superconducting films and lipid multilayers, as well as in applied investigations. The CP also noted the progress in implementing the scientific programme of the Laboratory of Radiation Biology;

— in parallel with the ongoing upgrade programme of the basic facilities, the beginning of the development at JINR of a new accelerator complex of high-energy heavy ions — NICA (Nuclotron-based Ion Collider fAcility) and of an associated MultiPurpose Detector (MPD). This project is aimed at studying nuclear matter under extreme conditions which could occur at the early stages of the evolution of the Universe in the process of formation of neutron stars and which can be achieved in laboratory conditions in collisions of relativistic heavy ions;

— along with the home research activities, the continuation of JINR's participation in large projects, such as the LHC, and in the experimental programmes at the accelerators RHIC and Tevatron; the beginning of the active involvement of JINR groups in the development work for the international projects FAIR and XFEL;

— the substantial renovation, in 2007, of the JINR Central Information and Computing Complex, in particular the twofold increase of the mass data storage capability, which will facilitate the participation of JINR scientists in the analysis of new experimental data produced at facilities of external laboratories. The CP welcomed the plan, being developed by the JINR and LIT directorates, for a radical improvement of the computer telecommunication links with major partner laboratories in the Member States during the years 2010–2015 and asked the Plenipotentiaries, after the preparation of the draft plan, to submit corresponding proposals to the governments of their countries for the organization and coordination of a joint action programme concerning this important issue;

— the opening of a new JINR-based chair of the Moscow Institute of Physics and Technology «Fundamental and Applied Issues of the Physics of the Microworld» at the JINR University Centre, and of a new JINR-based chair «Nanotechnology and New Materials» at Dubna University; the realization by the UC of its first educational project for students from the Republic of South Africa.

The CP noted the efforts by the JINR Directorate towards optimization of the partnership programmes with research laboratories of the Member States and other countries, as well as with international scientific research organizations, based on their enhanced involvement in the research activities at Dubna and on attraction of financial and intellectual resources for the development of the JINR basic facilities, as well as based on the use of JINR's capabilities for the development of science and technology in the Member States. The Committee recommended that the JINR Directorate develop and realize an outreach programme for promoting, in Member States, the achievements of JINR and cooperation of scientists.

The Committee approved the efforts of the JINR Directorate to establish an International Nanotechnology Centre in the special economic zone at Dubna, with the participation of JINR and with the support of the International Association of Academies of Sciences.

The CP noted the importance of the agreements on further development of cooperation in the areas of scientific research and education, signed by JINR in December 2007 with the Russian Academy of Sciences, the Lomonosov Moscow State University, and the National Academy of Sciences of Ukraine. It also welcomed the activity of the JINR Directorate for the preparation of an agreement between JINR and the Ministry of Foreign and European Affairs and the Ministry of Higher Education and Research of France.

The Committee approved the work being done by the JINR Directorate to address a number of important social issues and recommended that the Plenipotentiaries intensify efforts for solving the question of pension provision for the staff members from their countries working at JINR on fixed-term employment contracts.

Concerning the report «Results of the Meeting of the JINR Finance Committee Held on 11–12 March 2008», presented by O. Abdinov, chairman of the Finance Committee, the Committee of Plenipotentiaries approved the Protocol of this meeting and the report of the Joint Institute for Nuclear Research for the year 2006:

- on the execution of the budget in expenditure — US\$41 559.3 thousand,
- with the summary account as of 01.01.2007 — US\$371 323.0 thousand.

Concerning the report «Results of the Audit of the Institute's Financial Activity in 2006», presented by A. Sedyshev, director of the MS-Audit company, the Committee of Plenipotentiaries approved the auditors' report on the financial activity of JINR examined for the year 2006 and thanked MS-Audit for the high quality of its audit work.

Based on the report «Execution of the JINR Budget in 2007» presented by V. Katrasev, assistant director of JINR for financial and economic issues, the Committee of Plenipotentiaries took note of the information on the execution of the JINR budget in 2007:

- in expenditure — US\$51 827.4 thousand,
- in income — US\$45 260.9 thousand.

The CP empowered MS-Audit to examine the Institute's financial activity for the year 2007 and approved the plan for auditing this activity, presented by the JINR Directorate.

In accordance with the JINR Charter, the CP session included the election of a new membership of the JINR Scientific Council. Based on the proposal of the JINR Directorate, presented by JINR Chief Scientific Secretary N. Russakovich, the Committee of Plenipotentiaries established the membership of the Scientific Council comprising 48 persons and approved the list of

members of the Scientific Council for the next term of five years.

The Committee thanked Professors Ts. Baatar (Mongolia), A. Budzanowski (Poland), A. Hryniewicz (Poland), J. Janik (Poland), V. Kantser (Moldova), N. Kazak (Belarus), G. Khuukhenhkuu (Mongolia), F. Lehar (France), R. Mir-Kasimov (Azerbaijan), V. Okolovich (Kazakhstan), B. Peyaud (France), R. Sosnowski (Poland), and W. Wagner (Germany) for their long and very successful work as members of the JINR Scientific Council.

The Committee of Plenipotentiaries thanked Professor Yu. Oganessian, scientific leader of the Flerov Laboratory of Nuclear Reactions, and Professor G. Zinoviev (Institute for Theoretical Physics, Kiev, Ukraine) for the reports presented at this session: «Prospects for Further Development at JINR of Heavy-Ion Physics at Low Energies» and «The Nuclotron-M–NICA Programme and World Trends in Heavy-Ion Physics at High Energies».

A regular session of the Committee of Plenipotentiaries of the governments of the JINR Member States was held in Dubna on 21–22 November. It was chaired by the Plenipotentiary of the Government of the Republic of Azerbaijan, M. Kerimov.

The Plenipotentiaries considered and approved the report «Main Directions of the Institute’s Strategic Development; Preparation of a Plan for the Development of JINR for the Years 2010–2016», presented by JINR Director A. Sissakian.

The Committee of Plenipotentiaries (CP) noted with satisfaction 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 Committee 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, next year, of the current seven-year «Programme of the Scientific Research and Development of JINR». The new seven-year plan should be based on the strategic provisions of the JINR road map and on the budget estimates for the future period. The main emphasis in the seven-year plan should be placed on the future development of the in-house facility base for fundamental scientific research. It should also include such aspects as the realization of the educational and innovation programmes, the development of the engineering infrastructure, as well as staffing and social issues.

The CP commissioned the JINR Directorate to elaborate the Plan for the Development of JINR for 2010–2016 and submit it for approval in November 2009. The first draft of the new seven-year plan should be considered in March 2009.

The CP 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 Committee of Plenipotentiaries:

— took note of the operation, since May 2008, of JINR’s new Laboratory — the Veksler and Baldin Laboratory of High Energy Physics (VBLHEP), which was established in order to utilize better the human and financial resources in implementing the programme for the upgrade of the Nuclotron accelerator complex and for the realization of the NICA/MPD project;

— approved the recommendations of the 104th session of the Scientific Council and the JINR Topical Plan of Research and International Cooperation for 2009;

— approved the Agreement between JINR and the Arab Republic of Egypt, in accordance with Article 8 of the JINR Charter;

— encouraged the JINR Directorate to continue efforts leading to conclusion of government-level agreements with the countries with which JINR had established productive scientific and technological cooperation, with a view to providing additional financial support for partnership programmes.

Concerning the report «Draft Budget of JINR for the Year 2009, Draft Contributions of the Member States for the Year 2010, and Budget Forecast till the Year 2015», presented by V. Katrasev, assistant director of JINR for financial and economic issues, the Committee of Plenipotentiaries resolved: to approve the JINR budget for the year 2009 with the total expenditure amounting to US\$68.714 million and the contributions of the Member States for the year 2009; to determine the volume of the JINR budget in income and expenditure for the year 2010 amounting to US\$83.92 million, and to adopt the provisional sums of the Member States’ contributions and of arrears payments for the year 2010.

With a view to planning the contribution of the Russian Federation to the JINR budget for the years 2011 and 2012 and taking into account the organization of the budget process in the host country of JINR, the CP determined the provisional volume of the JINR budget in income and expenditure for the year 2011 amounting to US\$99.66 million; adopted the provisional sums of the Member States’ contributions and of arrears payments for the year 2011; determined the provisional volume of the JINR budget in income and expenditure for the year 2012 amounting to US\$117.70 million, and adopted the provisional sums of the Member States’ contributions and of arrears payments for the year 2012.

The CP took the budget forecast of JINR till the year 2015, presented by the Directorate, as a basis for preparing the Plan for the Development of JINR for 2010–2016 in line with the JINR road map.

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	Li Je Sen	Vietnam	Nguyen Van Hieu

Finance Committee

One delegate
from each Member State

SCIENTIFIC COUNCIL

Chairman: A. N. Sissakian

Co-Chairman: I. Wilhelm (Czech Republic)

Scientific Secretary: N. A. Russakovich

O. Bakhran-ogly Abidinov	Azerbaijan	M. V. Kovalchuk	Russia	G. S. Pogosyan	Armenia
I. Antoniou	Greece	K. Królas	Poland	J. Ružička	Slovak Republic
A. Antonov	Bulgaria	V. I. Kuvshinov	Belarus	V. Sahni	India
M. Budzynski	Poland	G. N. Kulipanov	Russia	D. Sangaa	Mongolia
Gh. Căta-Danil	Romania	A. A. Logunov	Russia	Š. Šaro	Slovak Republic
A. Duisebaev	Kazakhstan	F. Guzmán Martínez	Cuba	N. M. Shumeiko	Belarus
M. A. Ehliashvili	Georgia	M. Mateev	Bulgaria	A. N. Skrinsky	Russia
J. Ellis	Switzerland	V. A. Matveev	Russia	P. Spillantini	Italy
S. Galès	France	T. M. Muminov	Uzbekistan	M. Spiro	France
N. Giokaris	Greece	D. L. Nagy	Hungary	H. Stöcker	Germany
B. V. Grinev	Ukraine	W. Nawrocik	Poland	Gh. Stratan	Romania
T. Hallman	USA	Nguyen Manh Shat	Vietnam	V. I. Strazhev	Belarus
R.-D. Heuer	Switzerland	Nguyen Van Hieu	Vietnam	A. N. Tavkhelidze	Georgia
Chen Hesheng	China	Yu. A. Osipian	Russia	C. Turtă	Moldova
Hwan Sok Hwa	D. P. Republic of Korea	G. Piragino	Italy	G. M. Zinoviev	Ukraine
V. G. Kadyshchikov	Russia				

Programme Advisory Committee for Particle Physics

Chairperson: J. Nassalski (Poland)
Scientific Secretary: Yu. A. Gornushkin

Programme Advisory Committee for Nuclear Physics

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

Programme Advisory Committee for Condensed Matter Physics

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

INTERNAL ORGANIZATION OF THE JOINT INSTITUTE FOR NUCLEAR RESEARCH

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

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. Olchevski	Director S. N. Dmitriev	Director A. V. Belushkin	Director V. V. Ivanov	Director E. A. Krasavin	Director D. V. Fursaev
<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

For the purpose of social security of the employees from the Member States of the Institute — non-citizens of the Russian Federation (Agreement between the Government of the Russian Federation and JINR on the Location and Terms of Activity of JINR in the Russian Federation, Article 21), the CP asked the Plenipotentiaries of the JINR Member States to submit to the Institute Directorate, by 1 February 2009, their proposals for revoking the following decision taken by the Committee of Plenipotentiaries at its meeting on 20–23 September 1956 (Section V of the Protocol): «*With a view to facilitating mutual settlements between the Institute and the Member States, to ask the governments of the Member States of the Institute to permit chargeable taxes from the citizens, who work in this Institute, to be counted against Member States' contributions for financing the Institute, equally to the sums of the taxes withheld from the citizens of the corresponding countries*». A decision on this issue is expected to be made at the CP session in March 2009.

The Committee also asked the Plenipotentiaries of the Member States to submit to the Institute Directorate, by 1 February 2009, their proposals on the ways of participation by the employees from the Member States of the Institute — non-citizens of the Russian Federation — in the pension provision in their countries and on the percentage rates of this participation.

The CP commissioned the JINR Directorate to prepare proposals for the 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. These proposals will be considered at the CP session in March 2009.

Taking into account the peculiarities of the dynamics in the UN scale variation, the CP agreed, as an exception, on the necessity of canceling the arrears in the payment of contributions by the Republic of Moldova to the JINR budget for the period from 1992 to 2003. Taking into account the budget process in the Republic of Kazakhstan and the guarantees from the Government of the Republic of Kazakhstan, the CP established the yearly contribution to the JINR budget for the Republic of Kazakhstan for the years 2009–2011 at the level of the contribution of the year 2008, being US\$721.8 thousand, on condition of complete pay-off of the arrears for the years 2002–2003 and the period until 2007 inclusive in the sum of US\$2703.2 thousand.

The Committee also resolved to supplement Article 1 of the Charter of the Joint Institute for Nuclear Research, approved as amended in 1992, by paragraph 2 to read as follows: «*The abbreviated name of the Joint Institute for Nuclear Research is ОИЯИ in the Russian language and is JINR in the English language*».

Based on the report «Directorate's Proposals Towards Optimization of the JINR Infrastructure», presented by V. Katrasev, assistant director of JINR for financial and economic issues, and G. Shirkov, chief

engineer of JINR, the Committee of Plenipotentiaries resolved to agree to the proposals by the JINR Directorate concerning:

— the sale of the repair depot of the Institute's Motor Transport Service, located at the address: Promzona, Dubna, Moscow Region. The sale shall be conducted in accordance with the Financial Regulations of JINR;

— the sale of the JINR stadium, located at the address: JINR Stadium, Dubna, Moscow Region, into the municipal property of the town of Dubna;

— the sale of the property and land plot of the JINR pioneer camp «Volga», located at the address: Kimry District, Tver Region. The sale shall be conducted in accordance with the Financial Regulations of JINR;

— the sale of the stable, located at the address: 1, Ratmino St., Dubna, Moscow Region. The sale shall be conducted in accordance with the Financial Regulations of JINR;

— the sale of the hostel, located at the address: 6, Mokhovaya St., Dubna, Moscow Region, into the municipal property of the town of Dubna.

The CP approved the plans of the JINR Directorate concerning construction of a Congress Centre, based on the Rest Home «Ratmino», located at the address: 2, Ratmino St., Dubna, Moscow Region, and requested the Directorate to prepare the schedule and propose the sources of funding the project of the Congress Centre construction and to present it for consideration at the session of the Committee of Plenipotentiaries in March 2009.

The Committee allowed JINR to take part in the establishment of OOO Generatsiya with the purpose of improving the reliability of the power supply system of the JINR basic facilities and of reducing electricity consumption costs, provided the conditions of this participation are agreed upon with the Plenipotentiaries in accordance with the Financial Regulations of JINR.

Concerning the report «Draft Regulation for the Director of JINR», presented by A. Ruzaev, assistant director of JINR for innovative development, the Committee of Plenipotentiaries resolved:

— to approve the Regulation for the Director of the Joint Institute for Nuclear Research;

— to commission the JINR Directorate and the Working Group under the CP Chairman to prepare a new edition of the Regulation for the JINR Personnel and to submit it to the Committee of Plenipotentiaries for approval in November 2009.

Based on the report «Results of the Meeting of the JINR Finance Committee Held on 18–19 November 2008», presented by O. Abdinov, chairman of the Finance Committee, the Committee of Plenipotentiaries approved the Protocol of this meeting of the Finance Committee.

The Committee of Plenipotentiaries thanked Professor A. Frank for the scientific report «Neutron Optics at JINR» presented by him at this session.

The 103rd session of the JINR Scientific Council, chaired by JINR Director A. Sissakian and co-chaired by Professor I. Wilhelm of Charles University (Prague, Czech Republic), took place in Dubna on 21–22 February.

At the session, Professor A. Sissakian presented a report on the implementation of the recommendations made at the 102nd session of the Scientific Council and on the major results of JINR's activity in 2007. The Scientific Council also reviewed the following progress reports: «Operation of the Facilities in 2007» (G. Shirkov), «Status of Modernization of the IBR-2 Reactor» (A. Vinogradov), «Development of the Neutron Spectrometer Complex for the IBR-2M Reactor» (A. Balagurov), «Development of the FLNR Cyclotron Complex» (G. Gulbekyan), «IREN: Status and Schedule» (V. Shvetsov), «Nuclotron-M Project» (G. Trubnikov), and «Activity for the NICA/MPD Project» (V. Kekelidze).

Information about the preparatory work on the JINR–CERN partnership programme for the next five years was presented by JINR Chief Scientific Secretary N. Russakovich. The plans for JINR's participation in the FAIR project were reported by VBLHE Deputy Director A. Kovalenko («Accelerator Technology») and by DLNP Director A. Olchevski, («Spectrometers and Physics Issues»). Reports by the Directors of JINR Laboratories and University Centre on the results of activities in 2007 were presented in written form.

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 W. Nawrocik (PAC for Condensed Matter Physics). JINR Vice-Director M. Itkis presented the Directorate's proposals concerning memberships of the PACs. The recommendations of the Jury on the JINR prizes for the year 2007 were presented by Vice-Director R. Lednický.

The Scientific Council congratulated Professor A. Zichichi (INFN, Bologna, and CERN) on being awarded the 2007 Pontecorvo Prize for his fundamental contributions to the creation of the largest underground Gran Sasso National Laboratory and to the construction of large-scale facilities for experimental studies of solar and accelerator neutrinos. The Scientific Council endorsed the Directorate's proposal to award the title «Honorary Doctor of JINR» to Professors N. Kroó (Hungary) and H. Vartapetian (Armenia), in recognition of their outstanding contributions to the advancement of science and the education of young scientists.

At the session, the election of the Director of LIT and of a Deputy Director of BLTP took place, and the vacancy of the position of the Director of DLNP was announced.

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 102nd session of the Scientific Council and on the major results of JINR's activity in 2007. The Scientific Council was pleased to note that most of its recommendations to the JINR Directorate concerning the Scientific Programme of JINR, the operation and upgrade of the basic facilities, and the construction of new facilities were being implemented. It was also pleased to learn about the decision of the Committee of Plenipotentiaries to increase the JINR budget by 24% in 2008 and about the increase of the average salary of the Institute staff.

The Scientific Council noted the decision of the Committee of Plenipotentiaries to approve the proposal of the Institute Directorate concerning the establishment of the Veksler and Baldin Laboratory of High Energy Physics, based on the merger of VBLHE and LPP, in order to utilize better their human and financial resources in implementing the programme for the upgrade of the Nuclotron accelerator complex and for the realization of the NICA/MPD project. The Scientific Council stressed the need to accomplish this merger in a way that maintains the high motivation of the talented scientists and technical staff of both laboratories.

The Scientific Council recommended that the JINR Directorate prepare a well-documented NICA/MPD project for its presentation to the relevant international advisory bodies, such as ECFA or NuPECC, in order to gain international credibility and to explore the possibility of integrating this project in the international accelerator development programme.

The Scientific Council appreciated the efforts of the Directorate towards optimization of the JINR partnership programme with research laboratories of the Member States and other countries, as well as international scientific research organizations, based on their enhanced involvement in the research activities of Dubna and on attraction of investments for the development of the JINR basic facilities.

The Scientific Council noted the importance of the agreements on further development of cooperation in the areas of scientific research and education, signed by JINR in December 2007 with the Russian Academy of Sciences, the Lomonosov Moscow State University, and the National Academy of Sciences of Ukraine.

The Scientific Council noted with interest the plan, being considered by the Institute Directorate together with the Russian Research Centre «Kurchatov Institute», concerning the establishment in Dubna of a JINR-based International Nanotechnology Centre of the Member States.

The Scientific Council congratulated the IBR-2 reactor team for its progress in modernizing the reactor and appreciated the progress made in the IREN project. The Scientific Council also appreciated the progress being made in the Nuclotron-M upgrade programme and the planning for the NICA/MPD project.

The Scientific Council appreciated the long-standing and close scientific cooperation between JINR and the European Organization for Nuclear Research, in addition to which the two partners have several common educational projects, including the organization of the European Schools of High-Energy Physics, conferences, workshops and exhibitions, in particular the joint exhibition «Science Bringing Nations Together». The Scientific Council took note of the information, presented by JINR Chief Scientific Secretary N. Russakovich, about the preparatory work on the JINR–CERN partnership programme for the next five years.

The Scientific Council noted the importance of the agreement signed by 11 countries (including Russia and some other Member States of JINR) about the start-up of the joint realization of the FAIR project in Darmstadt. It took note of the reports on the plans for JINR's participation in the FAIR project concerning accelerator technology, spectrometers and physics issues. The Scientific Council recognized that JINR possesses much expertise applicable to the FAIR project, and urged that the appropriate balance be maintained between the NICA and FAIR projects.

The Scientific Council concurred with the recommendations made by the PACs at their January 2008 meetings.

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 2008–2010 in accordance with the main provisions of the updated road map.

The Scientific Council appreciated the proposals made by BLTP for the programme targeting new physics searches in experiments at the LHC. It also supported BLTP's proposals for the physics programmes of LHC experiments, as well as enhanced participation of this Laboratory in the modelling and future interpretation of LHC experimental data. The Scientific Council also noted the important role of BLTP in the preparation of the scientific part of the NICA/MPD project and recommended that this activity be continued.

The Scientific Council highly appreciated the work done by the Independent Expert Panel for the Nuclotron-M project, chaired by Professor B. Sharkov (ITEP, Moscow), which had prepared a comprehensive review of this project for discussion by the PAC. The Scientific Council concurred with the PAC's recommendation to approve the Nuclotron-M project for execution by the end of 2010.

The Scientific Council strongly endorsed the PAC's recommendation that the Directorate appoint a stand-

ing Machine Advisory Committee, comprised of independent experts, for the Nuclotron-M/NICA accelerator complex. This committee should meet two times a year to review progress towards achieving the milestones of the Nuclotron-M upgrade, and the chairman of this advisory committee should make regular reports to the Directorate and the PAC. The Scientific Council looks forward to further elaboration of the compelling spin and heavy-ion physics programmes that will be accomplished at NICA. This should be documented in a white paper suitable for international review.

The Scientific Council also looks forward to hearing from the PAC the report it has commissioned from the particle physics community on its experience in using the JINR Central Information and Computing Complex. The Scientific Council supported the recommendations of the PAC on the continuation of the activities beyond 2007.

The Scientific Council shares the concern of the PAC that its recommendation, taken as early as November 2002, to include the procedure for treating requests for extensions of ongoing experiments in the «JINR Rules of Proposal Preparation», has not yet been implemented and that this procedure has not been defined in the existing rules. The Scientific Council agreed that such extensions should be treated similarly to the approval of new projects and stressed the importance of implementing this recommendation as it concerns the interests of JINR's three PACs.

Nuclear Physics Issues. The Scientific Council shares the general statement of the PAC that heavy-ion physics at low and high energy addresses fundamental problems that will require continuing research for several decades. Examples of important applications for practical life and society are provided by tumor therapy with heavy-ion and proton beams.

The Scientific Council endorsed the FLNR programme of scientific research in heavy-ion physics planned for 2008. It supported the continuation of the traditional trends in the studies carried out at the Laboratory, in particular the investigations of chemical properties of superheavy elements, of properties of transfermium elements, light exotic nuclei near and beyond the drip line, and the development of the accelerators and main experimental set-ups of the Laboratory. The Scientific Council appreciated the results of the U400M cyclotron upgrade, which is essential for the acceleration of low-energy beams. Assembling the new experimental set-ups at the U400M cyclotron will ensure non-stop experiments to study superheavy elements during the modernization of U400 planned at the end of 2009.

The Scientific Council looks forward to achieving the expected results on the completion of the first stage of the IREN project in the current year. The parameters of the IREN facility (Phase I) could permit performing accurate measurements of the neutron cross

section addressed to astrophysics and medical applications.

The Scientific Council supported the PAC's recommendation on the new project «Deep Underwater Muon and Neutrino Detector at Lake Baikal», which aims at increasing the participation of DLNP, including the preparation of the next-generation 1 km³ detector. Considering this activity to be potentially of great importance for the neutrino programme, the Scientific Council requested from the PAC a report on its competitiveness in the general world context.

The Scientific Council invited the authors of the LEPTA project to update the research programme at this facility and present it to the PAC for consideration.

Condensed Matter Physics Issues. The Scientific Council was pleased to note that work for the modernization of the IBR-2 reactor is well under way and according to schedule. The success of this activity is due to its well-organized management, the commitment and high sense of responsibility of the reactor team, as well as the comprehensive support to the modernization programme that is being given by the FLNP and JINR directorates. The Scientific Council also noted the high level of expertise of the personnel participating in the IBR-2 modernization work and strongly recommended that all necessary actions be taken to preserve the accumulated experience and to transfer it to younger staff. The Scientific Council supported the PAC's recommendation on the extension of the theme «Upgrade of the IBR-2 Complex» until 2010 and the plan for the remaining activities at the reactor, taking into account its previous recommendations on the priority work for construction of the complex of cryogenic moderators.

The Scientific Council noted the start in 2007 of the programme for the upgrade of the IBR-2 neutron spectrometer complex. The Scientific Council reiterated its strong recommendation on the adequate organizational and financial support for this programme. Its implementation is extremely important, along with the upgrade of the reactor, to secure the effective and innovative exploitation of the IBR-2M reactor from 2010 onwards.

The Scientific Council appreciated the high level of activities in condensed-matter sciences pursued by FLNP research groups, in spite of the shut-down of the IBR-2 reactor for modernization. In 2007 important scientific results were obtained in the fields of complex magnetic oxides, magnetic fluids, multilayer superconducting films and lipid multilayers, as well as in applied investigations.

The Scientific Council also appreciated the progress in implementing the scientific programme of the Laboratory of Radiation Biology. It noted with interest the ongoing construction of a state-of-the-art confocal microscope by the SOLAR company (Belarus) for LRB. This instrument may be a unique basic facility for a

number of JINR Member States in the fields of molecular biology, cell biology, radiation genetics, and other applications.

The Scientific Council congratulated the PAC on holding poster sessions with young scientists and encouraged the other PACs to hold similar poster sessions.

Common Issues. The Scientific Council appreciated the successful implementation of the Educational Programme pursued by the JINR University Centre. The motivation, education, and attraction of young people for modern science are of vital importance for the future of the Institute. The utmost care for and most active involvement in the education and training process should be a permanent task for the JINR laboratories and research groups.

The Scientific Council encouraged greater coordination of JINR activities in medical and biological sciences, as well as the importance of maintaining a healthy balance between JINR's in-house facilities and its collaborations with other laboratories.

In view of the geographical location of JINR and the bulk of its Member States, the Scientific Council encouraged the Directorate to seek better integration with other European research programmes and facilities in particle, nuclear and condensed matter physics. To this end, it suggested that the Directorate seek higher visibility in the European physics communities in these areas, and that JINR participate more fully in international coordination bodies such as ECFA and NuPECC.

The Scientific Council urged the Directorate to strengthen its efforts to encourage the largest possible number of qualified candidates to present themselves for election as Directors and Deputy Directors of the laboratories, who should present to the Scientific Council their visions and management plans for the posts.

The Scientific Council encouraged the Directorate to schedule restricted sessions of the Scientific Council, at which only its voting members would be present, and to make electronic copies of its documents available prior to its meetings.

As proposed by the JINR Directorate, the Scientific Council appointed Professors C. Beck (IPHC, Strasbourg, France), V. Ostashko (INR, Kiev, Ukraine), and O. Zimmer (ILL, Grenoble, France) as new members of the PAC for Nuclear Physics for a term of three years. The Scientific Council thanked the outgoing members Professors H. Börner and A. Goverdovski for their very successful work in this PAC.

As proposed by the JINR Directorate, the Scientific Council appointed Professors P. Balgavý (Comenius University, Bratislava, Slovakia), L. Bottyán (KFKI, Budapest, Hungary), F. Currell (Queen's University, Belfast, United Kingdom), V. Kantser (ASM, Chisinau, Moldova), and A. Kuzmin (ISSP, Riga, Latvia) as new members of the PAC for Condensed Matter Physics for a term of three years. The Scientific Council thanked the outgoing members Professors R. Cywinski,

F. Macášek, and D. Nagy for their very successful work in this PAC and approved the Jury's recommendations on the JINR prizes for 2007.

The Scientific Council elected by ballot Professor V. Ivanov as Director of the Laboratory of Information Technologies for a term of five years and Professor F. Šimkovic as Deputy Director of the Bogoliubov Laboratory of Theoretical Physics until the completion of the term of office of the BLTP Director.

The 104th 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 25–26 September.

The Scientific Council welcomed the comprehensive report presented by JINR Director A. Sissakian on the implementation of the recommendations made at the 103rd session of the Scientific Council and preparation of the seven-year plan of the JINR development, noting that its recommendations to the JINR Directorate concerning the scientific programme of JINR, the operation and upgrade of the basic facilities, and the construction of new facilities were being successfully implemented.

The Scientific Council appreciated the intention of the JINR Directorate to prepare a plan for the development of JINR for the years 2010–2016 in view of the completion, next year, of the current seven-year «Programme of the Scientific Research and Development of JINR». The new plan will be based on the budget estimates for the future period and on the strategic provisions of the JINR road map, and will include such aspects as the realization of the proposed scientific, educational, and innovation programmes, the development of the engineering infrastructure, as well as staffing and social issues. The Working Group, set up by the Directorate, is commissioned to prepare the first draft of the new seven-year plan by 1 January 2009 and to make it available for discussions.

The Scientific Council welcomed the decision of the Committee of Plenipotentiaries 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 believes that this suite of advanced instruments provides compelling justification for the proposed increase in budget in 2011–2015.

The Scientific Council was pleased to learn about the visit to JINR, on 18 April 2008, of the President of the Russian Federation, D. Medvedev. Together with leaders of government agencies and regions of the host country, the President was presented with information

on the research work of the Flerov Laboratory of Nuclear Reactions, in particular on the discovery of superheavy elements, and on other areas of the Institute's activity. The Scientific Council noted with satisfaction that President D. Medvedev highly appreciated the results of JINR's basic research and underlined the role of science in the innovation process; that he supported the proposals of the JINR Directorate for the establishment in Dubna of an International Innovation Centre for Nanotechnology and of a Centre for Radiation Medicine with JINR's participation. The President also expressed his positive attitude to the plans to increase the JINR budget in 2011–2015.

The Scientific Council noted the operation, since May 2008, of JINR's new Laboratory — the Veksler and Baldin Laboratory of High Energy Physics (VBLHEP), which was established by the decision of the JINR Directorate in order to utilize better the human and financial resources in implementing the programme for the upgrade of the Nuclotron accelerator complex and for the realization of the NICA/MPD project, and of the appointment of Professor V. Kekelidze as Acting Director of VBLHEP.

The Scientific Council appreciated the progress towards realization of the primary tasks of JINR in accordance with the JINR road map in the fields of particle physics and relativistic nuclear physics, in nuclear physics, and condensed matter physics, as presented in reports by Vice-Directors R. Lednický and M. Itkis.

The Scientific Council took note of the progress reports on current activities: «Status of Modernization of the IBR-2 Reactor» (A. Belushkin), «Construction of Phase I of the IREN Facility» (V. Shvetsov), «Activity for the DRIBs Project» (S. Dmitriev), «Progress towards Realization of the Nuclotron-M Project» (G. Trubnikov), «Activity for the NICA/MPD Project» (V. Kekelidze), and «Educational Programme of JINR» (D. Fursaev).

The Scientific Council concurred with the recommendations made by the PACs and presented by Professors J. Nassalski, W. Greiner, and W. Nawrocik.

Particle Physics Issues. The Scientific Council welcomed the appointment of the Machine Advisory Committee (MAC), comprised of independent experts, for the Nuclotron-M/NICA accelerator complex, and looked forward to the results of its next meeting at the end of 2008 when the committee was to carry out an in-depth critical review of the NICA draft technical design report before its publication. The Scientific Council appreciated the ongoing effort to further develop the scientific programme for the NICA/MPD project as an important means to attract to and retain young scientists and engineers at JINR. The Scientific Council concurred with the PAC that the scientific observables for the mixed phase and potential future spin physics programmes should be sharpened by detailed simulations to document the requirements for the success of

this scientific research in a forthcoming white paper on this topic.

The Scientific Council noted the progress for ongoing developments at JINR related to the ILC, the recent visit to JINR of the ILC GDE where information concerning possible siting of the ILC in the Moscow Region was actively discussed. The Scientific Council concurred with the view of the PAC that to build credibility as a potential host laboratory for the ILC, adequate resources from the JINR Directorate will be necessary to allow technical developments and contributions at the international level to the ILC development. The Scientific Council encouraged the PAC for Particle Physics to review JINR activity on CLIC R&D with a view to optimizing JINR's work related to linear collider developments.

The Scientific Council appreciated the readiness of the JINR groups taking part in the ALICE, ATLAS, and CMS experiments to obtain first physics results at the time of LHC start-up, and recommended that these teams continue their active participation in these experiments. The important contribution of the JINR team to the LHC damping system was also appreciated.

The Scientific Council noted the discussion at the PAC meeting by the physics community concerning their experience of using the JINR Central Information and Computing Complex (CICC). The feedback from the users is very essential for the development of the JINR computing and network infrastructure. The Scientific Council recommended that the LIT Directorate have regular meetings with the CICC users and the leaders of JINR's ongoing and future projects where the strategy for the further upgrade of the CICC and the allocation of existing resources can be discussed.

The Scientific Council supported the PAC's recommendation on the new project «JINR's Participation in the Daya Bay Neutrino Experiment», emphasizing the importance of the participation in this promising experiment and the positive impact that it will have on further development of the scientific relations between China and JINR. The Scientific Council noted with satisfaction the important contributions of JINR physicists to the COMPASS, D0, and CDF experiments.

Nuclear Physics Issues. The Scientific Council endorsed the activity of the Flerov Laboratory of Nuclear Reactions, in line with the previous recommendations of the PAC and the Scientific Council, aimed at modernizing the cyclotrons and extending the experimental potential of the Laboratory. However, taking into account the need of a new perspective of studies of both neutron-rich light nuclei and superheavy nuclei, the Scientific Council invited the Laboratory to work out a long-range programme of further developments of the accelerator complex and of state-of-the-art experimental facilities of the next generation. The main purpose is the quantitative increase of the efficiency of experiments as a whole by at least one order of magnitude to

allow the Laboratory to keep its leadership during the next decades.

The Scientific Council highly appreciated the efforts of the JINR Directorate and the laboratories involved in the implementation of the IREN project, in particular the efforts of the FLNP Nuclear Physics Department on the preparation of the experimental infrastructure at IREN Phase I. The Scientific Council supported the PAC's recommendations that the theme «Construction of the IREN Facility» be finished in 2008, and the financial resources for the maintenance, operation and development of the IREN facility be kept within the theme «Nuclear Physics with Neutrons: Fundamental and Applied Investigations». It further supported the PAC's recommendation that the available human, financial and technical resources of the FLNP Nuclear Physics Department be concentrated mainly on the realization of the proposed scientific programme for IREN-1 and on the development and preparation of the programme for the full-scale IREN facility.

Condensed Matter Physics Issues. The Scientific Council was pleased to note that work for the modernization of the IBR-2 reactor was proceeding well and according to schedule. It looked forward to the continuation of the comprehensive support of the modernization programme that was being given by the FLNP and JINR directorates.

The Scientific Council noted the progress in the planning of the development of the neutron spectrometer complex for the future modernized reactor IBR-2M. The first priority will be given to the implementation of two new spectrometers, DN-6 and GRAINS, and to the comprehensive upgrade of the SKAT/EPSILON spectrometers. The existing suite of instruments should receive the funding necessary for efficient operation. Future projects should include improvements to instruments which can contribute to the study of nanomaterials.

The Scientific Council appreciated the progress in implementing the scientific programme of the Laboratory of Radiation Biology. It notes with much interest the development, jointly with other JINR laboratories, of a new cancer cell control method using nanotechnology and super-high frequency penetrating electromagnetic radiation. Another new important aspect of the LRB activity is the implementation of a unique, powerful confocal Coherent Anti-Stokes Raman Scattering microscope as a basic facility that allows achieving the front line of biological studies at the cellular level.

Common Issues. The Scientific Council appreciated the impressive progress of the JINR Educational Programme, pursued by the University Centre (UC) during the last 10 years, in particular the increased number of students and JINR-based university departments, the successful organization of the international practice for students of JINR Member States, and the creation of educational infrastructure. The Scientific Council sup-

ported the proposal by the UC Director concerning the increase of the budget required to complete the creation of student laboratories and to enlarge the number of PhD students. The lecture programmes for school teachers at JINR should also be funded. The possibility of accreditation of PhD status for students who participate in the Educational Programme should be explored, especially for the Member States.

The Scientific Council welcomed the efforts taken by the JINR Directorate for the establishment at 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 hadron therapy field. The Scientific Council supported the PAC's recommendation that clinical research using the DLNP Phasotron proton beams should be continued until the Centre for Radiation Medicine has been commissioned.

The Scientific Council took note of the report concerning the current memberships of the PACs and the rotation of members in the PACs, presented by Vice-Director M. Itkis. As proposed by the JINR Directorate, the Scientific Council appointed Professor V. Kantser (ASM, Chisinau, Moldova) as Chairperson of the PAC for Condensed Matter Physics for a term of three years. The Scientific Council thanked Professor W. Nawrocik for his very successful work as Chairperson of this PAC.

The Scientific Council appointed Professors G. Eckold (IPC, Göttingen, Germany) and H. Fuess (IMS, Darmstadt, Germany) as new members of the PAC for Condensed Matter Physics for a term of three years and thanked the outgoing members Professors H. Lauter and H. Tietze-Jaensch for their very successful work in this PAC.

The Scientific Council appointed Professor Y. Wang (IHEP, Beijing, China) as a new member of the PAC for Particle Physics for a term of three years and thanked Professor A. Frank for his outstanding scientific report «Precise UCN Spectroscopy with Fabry–Perot Interferometers».

The Scientific Council looked forward to a presentation, by the JINR Directorate at its next session, of the rules and responsibilities for membership and associate membership in the Joint Institute for Nuclear Research.

The Scientific Council recognized the highly competitive programme afforded by the upgraded

IBR-2M, IREN, Nuclotron-M/NICA, and DRIBs-III facilities. The Scientific Council noted that the success of the Nuclotron-M/NICA project would depend critically on the creation of a well-developed, detailed plan for realization, and looked forward to a report on progress in this direction from the Chairperson of the MAC for Nuclotron-M/NICA at a future session. The Scientific Council also strongly supported increased effort to internationalize the construction and the scientific programme of Nuclotron-M/NICA. The Scientific Council noted the critical necessity to continue efforts to rejuvenate the scientific and technical staff of JINR as an essential investment to safeguard the long-term future of the Institute, and encouraged the Directorate to continue progress on essential reforms which advance this important activity.

The Scientific Council congratulated the laureates of the JINR prizes for 2007 — winners of the annual scientific research competition in the fields of theoretical physics, experimental physics, physics instruments and methods, and applied physics, as well as Professor N. Kroó (Hungarian Academy of Sciences) on the award of the title «Honorary Doctor of JINR», and endorsed the JINR Directorate's proposal to award the title «Honorary Doctor of JINR» to Professor T. Inagaki (KEK, Japan).

The Scientific Council elected by ballot Professor A. Olchevski as Director of the Dzhelepov Laboratory of Nuclear Problems for a term of five years. The Scientific Council announced the vacancies of the positions of Deputy Directors of the Dzhelepov Laboratory of Nuclear Problems and of the Laboratory of Information Technologies, and of a Deputy Director of the Frank Laboratory of Neutron Physics.

The Scientific Council announced the vacancies of the positions of the Directors of the Veksler and Baldin Laboratory of High Energy Physics and of the Laboratory of Radiation Biology.

The Scientific Council deeply regretted the sad loss of Academician Yu. Osipian, scientific leader of the Institute of Solid State Physics (Chernogolovka, Russia) and member of the JINR Scientific Council, who made an outstanding contribution to the development of scientific collaboration between JINR and physics research centres of the Russian Academy of Sciences.

MEETINGS OF THE JINR FINANCE COMMITTEE

A meeting of the JINR Finance Committee was held in Dubna on 11–12 March. It was chaired by O. Abdinov, representative of the Republic of Azerbaijan.

The Finance Committee took note of the report «Major Results of JINR's Activity in 2007» presented by JINR Director A. Sissakian. The Committee en-

dorsed the activity of the Institute Directorate for the implementation of the JINR Plan for Research and International Cooperation in 2007, noting with satisfaction the achievement of 100% of the planned budget in 2007.

The Finance Committee highly appreciated the efforts being taken by the directorates of JINR and its

laboratories towards accomplishing the upgrade of the Institute's basic facilities and constructing new facilities; noted the operation of the facilities in 2007 with a total running time of approximately 10 000 hours; noted the successful upgrade of the U400M cyclotron performed in 2007, which is essential for the acceleration of low-energy beams, as well as the beginning of the Nuclotron upgrade programme and the progress in modernizing the IBR-2 reactor. The Committee noted with satisfaction the resumption of the hadron therapy programme at the Phasotron and the planned commissioning of Phase I of the IREN facility in late 2008.

The Finance Committee supported the efforts by the JINR Directorate towards the optimization of the scientific programme of the Institute and on the update of the road map of its strategic development, in particular concerning the elaboration of the home research programme in the fields of heavy-ion physics at high and low energies and of condensed matter physics with nuclear methods.

The Finance Committee recommended that the Committee of Plenipotentiaries (CP) 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 against the level of the year 2010) with a view to creating an in-house facility base, attractive to the Member States and world scientific community (Nuclotron-M and NICA/MPD, DRIBs-III, and a complex of state-of-the-art neutron spectrometers for the modernized reactor IBR-2M), for conducting fundamental and applied research in line with road map, endorsed by the JINR Scientific Council and Committee of Plenipotentiaries. The Finance Committee asked the JINR Directorate to prepare, by June 2008, the corresponding scientific and economic substantiation.

The Finance Committee noted the achievements of JINR scientists in implementing the research programme in 2007. Particularly:

— the development of the Conceptual Design Project for the ion collider NICA (Nuclotron-based Ion Collider Facility) and the preparation of the letter of intent for the MultiPurpose Detector (MPD);

— the continuation of the traditional trends in the studies carried out at the Flerov Laboratory of Nuclear Reactions and the development of its accelerators and main experimental set-ups; assembling the new experimental set-ups at the U400M cyclotron that will ensure non-stop study of superheavy elements during the modernization of U400 planned at the end of 2009;

— the progress of the work for the modernization of the IBR-2 reactor, which is under way according to the approved schedule and is due to the commitment and high sense of responsibility of the reactor team, as well as to the comprehensive support to the modernization programme that is being given by the FLNP and JINR directorates; the high level of activities in condensed matter sciences pursued by FLNP research groups;

— the substantial renovation, in 2007, of the JINR Central Information and Computing Complex, in particular the twofold increase of the mass data storage capability;

— the opening of a new JINR-based chair of the Moscow Institute of Physics and Technology «Fundamental and Applied Issues of the Physics of the Microworld» at the JINR University Centre and of a new JINR-based chair «Nanotechnology and New Materials» at Dubna University; the realization by the UC of its first educational project for students from the Republic of South Africa.

The Finance Committee noted the JINR Directorate's efforts towards optimization of the partnership programmes with research laboratories of the Member States and other countries, as well as with international scientific research organizations, based on their enhanced involvement in the research activities at Dubna and on attraction of financial and intellectual resources for the development of the JINR basic facilities. The Committee recommended that the JINR Directorate develop and realize an outreach programme for promoting, in Member States, the achievements of JINR and cooperation of scientists.

The Finance Committee noted the importance of the agreements signed by JINR, in December 2007, with the Russian Academy of Sciences, the Lomonosov Moscow State University, and the National Academy of Sciences of Ukraine, concerning further development of cooperation in the areas of scientific research and education. The Committee also supported the efforts of the JINR Directorate to establish an International Nanotechnology Centre in the special economic zone at Dubna, with the participation of JINR and with the support of the International Association of Academies of Sciences.

Concerning the report «Results of the Audit of the Institute's Financial Activity in 2006» presented by A. Sedyshev, director of the MS-Audit company, the Finance Committee recommended that the CP approve the auditors' report concerning the financial activity of JINR examined for the year 2006 and thank MS-Audit for the high quality of its audit work.

Based on the report «Execution of the JINR Budget in 2007» presented by V. Katrasev, assistant director of JINR for financial and economic issues, the Finance Committee recommended that the CP:

— approve the report of the Joint Institute for Nuclear Research for the year 2006:

on the execution of the budget in expenditure — US\$41 559.3 thousand,
with the summary account as of 01.01.2007 — US\$371 323.0 thousand;

— take note the information on the execution of the JINR budget in 2007:

in expenditure — US\$51 827.4 thousand,
in income — US\$45 260.9 thousand;

— empower the MS-Audit company to examine the Institute's financial activity for the year 2007 and ap-

prove the plan for auditing this activity, presented by the JINR Directorate.

The Finance Committee thanked G. Trubnikov, deputy chief engineer, for the informative scientific report «Project NICA/MPD: Stage I — Nuclotron-M», presented at this meeting.

A meeting of the JINR Finance Committee was held in Dubna on 18–19 November. It was chaired by O. Abdinov, representative of the Republic of Azerbaijan.

The Finance Committee considered and approved the report «Main Directions of the Institute’s Strategic Development; Preparation of a Plan for the Development of JINR for the Years 2010–2016», presented by JINR Director A. Sissakian. It noted with satisfaction 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 Finance Committee 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, next year, of the current seven-year «Programme of the Scientific Research and Development of JINR». The main emphasis in the new seven-year plan should be placed on the future development of the in-house facility base. It should also include such aspects as the realization of the educational and innovation programmes, the development of the engineering infrastructure, as well as staffing and social issues.

The Finance Committee recommended that the Committee of Plenipotentiaries (CP) commission the JINR Directorate to elaborate the Plan for the Development of JINR for 2010–2016 and submit it to the CP for approval in November 2009.

Concerning the report «Draft Budget of JINR for the Year 2009, Draft Contributions of the Member States for the Year 2010, and Budget Forecast till the Year 2015», presented by V. Katrasev, assistant director of JINR for financial and economic issues, the Finance Committee recommended that the Committee of Plenipotentiaries approve the JINR budget with the total expenditure amounting to US\$68.046 million and the contributions of the Member States for the year 2009; determine the volume of the JINR budget in income and expenditure for the year 2010 amounting to US\$83.47 million, and adopt the provisional sums of the Member States’ contributions and of arrears payments for the year 2010.

With a view to planning the contribution of the Russian Federation to the JINR budget for the years 2011 and 2012 and taking into account the organization of the budget process in the host country of JINR, the Finance Committee resolved:

— to determine the provisional volume of the JINR budget in income and expenditure for the year 2011 amounting to US\$99.38 million;

— to adopt the provisional sums of the Member States’ contributions and of arrears payments for the year 2011;

— to determine the provisional volume of the JINR budget in income and expenditure for the year 2012 amounting to US\$117.70 million;

— to adopt the provisional sums of the Member States’ contributions and of arrears payments for the year 2012.

The Finance Committee took the budget forecast of JINR till the year 2015, presented by the Directorate, as a basis for preparing the Plan for the Development of JINR for 2010–2016 in line with the JINR road map.

Taking into account the peculiarities of the dynamics in the UN scale variation, the Finance Committee agreed, as an exception, on the necessity of canceling the arrears in the payment of contributions by the Republic of Moldova to the JINR budget for the period from 1992 to 2003. Taking into account the budget process in the Republic of Kazakhstan and the guarantees from the Government of the Republic of Kazakhstan, the CP established the yearly contribution to the JINR budget for the Republic of Kazakhstan for the years 2009–2011 at the level of the contribution of the year 2008, being US\$721.8 thousand, on condition of complete payment of the arrears for the years 2002–2003 and the period until 2007 inclusive in the sum of US\$2703.2 thousand.

Based on the report «Directorate’s Proposals towards Optimization of the JINR Infrastructure» presented by V. Katrasev, assistant director of JINR for financial and economic issues, and G. Trubnikov, deputy chief engineer of JINR, the Finance Committee recommended that the Committee of Plenipotentiaries agree to the proposals by the JINR Directorate concerning:

— the sale of the repair depot of the Institute’s Motor Transport Service, located at the address: Promzona, Dubna, Moscow Region. The sale shall be conducted in accordance with the Financial Regulations of JINR;

— the sale, into the municipal property of the town of Dubna, of the JINR stadium, located at the address: JINR Stadium, Dubna, Moscow Region;

— the sale of the property and land plot of the JINR pioneer camp «Volga», located at the address: Kimry District, Tver Region. The sale shall be conducted in accordance with the Financial Regulations of JINR;

— the sale of the stable, located at the address: 1, Ratmino St., Dubna, Moscow Region. The sale shall be conducted in accordance with the Financial Regulations of JINR;

— the sale, into the municipal property of the town of Dubna, of the hostel located at the address: 6, Mokhovaya St., Dubna, Moscow Region.

The Finance Committee also recommended that the CP allow JINR to take part in the establishment of

OOO Generatsiya with the purpose of improving the reliability of the power supply system of the JINR basic facilities and of reducing electricity consumption costs.

The Committee endorsed the plans of the JINR Directorate concerning construction of a Congress Cen-

tre, based on the Rest Home «Ratmino», located at the address: 2, Ratmino St., Dubna, Moscow Region, and suggested that the Directorate prepare the schedule and propose the sources of funding the project of the Congress Centre construction and present it for consideration at the CP session in March 2009.

MEETINGS OF THE JINR PROGRAMME ADVISORY COMMITTEES

The 28th session of the Programme Advisory Committee for Particle Physics was held on 17–18 January. It was chaired by Professor J. Nassalski.

JINR Vice-Director R. Lednický informed the PAC about the Resolution of the 102nd session of the JINR Scientific Council (September 2007), on the decisions of the JINR Committee of Plenipotentiaries (November 2007), and on the preparation of the JINR Programme of Particle Physics Research for the years 2008–2010 in accordance with the main provisions of the updated JINR road map.

The PAC was pleased to learn about the decision of the Committee of Plenipotentiaries to increase the JINR budget by 24% in 2008. The PAC emphasized, as part of the effort to optimize the staffing of JINR, the JINR Directorate should take deliberate actions to attract and retain the best young scientists from the Member States of the Institute. This is essential to secure the future of JINR.

The PAC noted the decision of the Committee of Plenipotentiaries to approve the proposal of the Institute Directorate to make changes to the structure of JINR in view of the plans for the upgrade of the Nuclotron accelerator complex and for the realization of the NICA project. In order to concentrate the human and financial resources on the implementation of this priority programme of JINR, it is envisaged to establish the Veksler and Baldin Laboratory of High Energy Physics, based on the merger of LHE and LPP. The PAC stressed the need to accomplish this merger in a way which maintains the high motivation of the talented scientists and technical staff of both laboratories.

The PAC noted with interest the plan, being considered by the Institute Directorate together with the Russian Research Centre «Kurchatov Institute», for the establishing in Dubna, with JINR's key participation, of a JINR-based International Nanotechnology Centre of the Member States. The PAC noted the importance of the agreement signed by 11 countries (including Russia and other Member States of JINR) about the start-up of the joint realization of the FAIR project in Darmstadt (Germany).

The PAC considered the reports presented by V. Kekelidze, director of VBLHE, A. Sorin, deputy director of BLTP, Yu. Potrebenikov, acting deputy director of LPP, A. Olchevski, director of DLNP, and by V. Ivanov, director of LIT, and discussed the main lines

of the JINR Programme of Particle and Relativistic Nuclear Physics Research proposed by them in accordance with the main provisions of the updated road map for the period 2008–2010. The PAC took note of the information presented by JINR Chief Engineer G. Shirkov on the progress for ongoing developments at JINR related to the ILC.

The PAC considered the report, presented by A. Sorin, on the participation of BLTP in the preparation of the physics programmes for the ALICE, ATLAS, and CMS experiments, as well as for the NICA/MPD project. The PAC highly appreciated the proposals made by BLTP for the programme targeting new physics searches in experiments at the LHC. It recommended that BLTP's proposals for the physics programmes of LHC experiments be supported and BLTP's participation in modeling and interpretation of LHC experimental data be enhanced in the future. The PAC also noted BLTP's important role in the preparation of the scientific part of the NICA/MPD project and recommended that this activity be continued.

The PAC took note of the written review presented by Professor B. Sharkov (ITEP, Moscow), chairman of the Independent Expert Panel for the new project Nuclotron-M, and highly appreciated the work done by this Panel. The PAC recommended approval of the Nuclotron-M project, which is the first stage of realization of the NICA project, for execution until the end of 2010.

The PAC stressed that timely progress towards achieving the milestone of the Nuclotron-M upgrade is crucial to the future of the high-energy programme at JINR. To help track this progress, the PAC strongly encouraged the Directorate to appoint a standing Machine Advisory Committee comprised of independent experts. This committee should meet two times a year to review progress towards achieving the milestones of the Nuclotron-M upgrade. The chairman of this advisory committee should make regular reports to the Directorate and the PAC.

The PAC supported the proposed strategy of the step-by-step realization of the NICA project. To realize this goal, it is essential that the financing schedule, endorsed by the Directorate, be fulfilled. The PAC looks forward to further elaboration of the compelling spin and heavy-ion physics programmes that will be accomplished at NICA. This should be documented in a white paper suitable for international review.

The PAC considered a report on the theme «Information, Computer and Network Support of JINR's Activity». The PAC recognized the progress of the work towards a substantial increase in the performance of the JINR Central Information and Computing Complex (CICC) in 2007, and the significant amount of work already accomplished by LIT on the preparation of software within the WLCG (Worldwide LHC Computing Grid) project. The PAC recommended continuation of this theme until the end of 2010 and invited a report by the JINR CICC user community concerning the experience of using the JINR computing infrastructure.

Having discussed a report on the project «Search for Effects of Polarized Open Strangeness of Nucleons», the PAC noted the active work on the preparation for data taking and recommended continuation of this project until the end of 2008. The PAC took note of written reports on the themes and projects previously approved for completion in 2007, and recommended continuation of the following activities: «Investigations at the GSI Accelerator Complex» (until the end of 2010), «Development of Particle Detection Methods Based on Thin-Wall Drift Tubes for Precision Coordinate Measurements at High Luminosity», «Movable Polarized Target» and the Med-Nuclotron project, and the OKA project (under the DLNP laboratory theme) (until the end of 2008). Some of the projects (GIBS, « η Nuclei», «Leading Particles») were recommended to be closed.

The 27th meeting of the Programme Advisory Committee for Nuclear Physics was held on 19–20 January. It was chaired by Professor W. Greiner.

The PAC members were informed about the implementation of the recommendations of the previous meeting, about the Resolution of the 102nd session of the Scientific Council (September 2007) and about the decisions of the Committee of Plenipotentiaries (November 2007).

The PAC approved the programme of scientific research in heavy-ion physics proposed by the Flerov Laboratory of Nuclear Reactions for 2008. It supported the continuation of the traditional trends in the studies carried out at this Laboratory, in particular the investigations of properties of transfermium elements, chemical properties of superheavy elements, light exotic nuclei near and beyond the drip line, and the development of the accelerators and main experimental set-ups of the Laboratory. The PAC recommended that the experimental programme of the Laboratory proposed for the period 2008–2009 be fully implemented, noting the importance of short-term experiments searching for new phenomena, especially in the field of producing new elements, proposed by scientists. The PAC recommended focusing the efforts on mounting and commissioning the experimental set-ups which are important for the future studies of transfermium elements at the Laboratory. In particular, the PAC heard a report on the spectroscopy

of heavy nuclei at FLNR and recommended that the proposed upgrade of the VASSILISSA separator be started in 2008.

The PAC considered proposals for the development of the accelerator facilities at the Flerov Laboratory and appreciated the results of the U400M cyclotron upgrade performed in 2007, which is essential for the acceleration of low-energy beams. Assembling the new experimental set-ups at the U400M cyclotron will ensure non-stop experiments to study superheavy elements during the modernization of U400 expected at the end of 2009. The PAC noted the importance of the further development of the DRIBs project, in particular the forthcoming modernization of the U400 cyclotron, for realization of the scientific plans of the Laboratory, and recommended concentrating financial resources on the full completion of the parts necessary for the accelerator systems to start the modernization of the U400 cyclotron at the end of 2009.

The PAC heard a status report on the IREN project. It recognized the efforts by FLNP to resolve the problems which entailed the delay in the project realization. The FLNP Directorate reported the work schedule for 2008 which should be completed by electron beam extraction to the non-multiplying target and by immediate start-up of the experimental programme of applied research. The PAC supported the decision of the JINR Directorate to extend the theme «Construction of the IREN Facility» for 2008 with first priority and expressed its wish for achieving the expected results in the current year.

The PAC heard the presentation of a new project «Deep Underwater Muon and Neutrino Detector at Lake Baikal», which aims at increasing the participation of DLNP in many respects, including the preparation of the next-generation 1 km³ detector. The BAIKAL detector is now, together with AMANDA, the world's largest detector for high-energy neutrino beams coming from the universe or which are generated by annihilation processes of dark matter. The PAC noted the great importance of the BAIKAL project for the neutrino programme and recommended its approval with high priority.

The PAC took note of the report presented by Vice-Director M. Itkis and supported the priorities in the JINR Nuclear Physics Programme proposed in accordance with the main provisions of the updated JINR road map for the period for 2008–2010.

The PAC highly appreciated the successful implementation of the Educational Programme pursued by the JINR University Centre. The motivation, education, and attraction of young people for modern science are of vital importance for the future of the Institute. The utmost care and development of the education and training process and very active involvement in it should be a permanent task for the JINR laboratories and research groups.

The PAC heard with interest the reports «Quantum Optical Experiment on Measurement of the Gravitational Force Acting on the Neutron», presented by A. Frank, and «Possibilities of Producing Exotic Nuclei in Complete Fusion and Transfer-Type Reactions», presented by N. Antonenko, and encouraged continuation of this research.

The 27th meeting of the Programme Advisory Committee for Condensed Matter Physics was held on 21–22 January. It was chaired by Professor W. Nawrocik.

Vice-Director M. Itkis informed the PAC about the Resolution of the 102nd session of the JINR Scientific Council (September 2007) and about the decisions of the Committee of Plenipotentiaries (November 2007).

The PAC was pleased to learn about the decision of the Committee of Plenipotentiaries to increase the JINR budget by 24% in 2008. The PAC also noted with interest the plan, being considered by the Institute Directorate together with the Russian Research Centre «Kurchatov Institute», for establishing in Dubna, with JINR's key participation, a JINR-based International Nanotechnology Centre of the Member States.

The PAC appreciated the excursions to the Frank Laboratory of Neutron Physics and the Laboratory of Radiation Biology and the explanations given by FLNP Director A. Belushkin, FLNP Chief Engineer A. Vinogradov, and by LRB Director-Organizer E. Krasavin. The PAC acknowledged the excellent work of the FLNP Directorate for the modernization of the IBR-2 reactor and of the LRB Directorate for developing this laboratory and providing it with modern equipment.

The PAC was informed by A. Vinogradov about the status of the modernization of the IBR-2 reactor, which is well underway according to the schedule. The PAC supported the plan for the remaining activities at the reactor, taking into account its previous recommendations on the priority work for construction of the complex of cryogenic moderators.

The PAC took note of the report, presented by A. Belushkin, on the expiring theme «Upgrade of the IBR-2 Complex» and noted that the planned work up to the end of 2007 under this theme had been accomplished fully and with high quality. The PAC recommended extension of this theme for three years (2008–2010) in order to implement fully the planned upgrade of the IBR-2 reactor.

The PAC took note of the report, presented by A. Balagurov, about the organization of scientific research and results obtained in 2007 under the theme «Neutron Investigations of the Structure and Dynamics of Condensed Matter». The PAC appreciated the high level of scientific activity at FLNP, in spite of the stop of the IBR-2 reactor operation. Important scientific results were obtained in the fields of complex magnetic oxides, magnetic fluids, multilayer supercon-

ducting films, lipid multilayers, as well as in applied investigations. In 2007, the implementation of the programme for the upgrade of the spectrometer complex at the IBR-2 reactor started. In accordance with the PAC's recommendations (April 2007), this work was carried out for the projects FSD, REMUR, DN-6 and for those with external support SKAT/EPSILON, GRAINS. The PAC supported the participation of FLNP staff in the development of the spectrometer complex at the IR-8 reactor in the Kurchatov Institute.

The PAC noted the comparative analysis results of the development of IBR-2 spectrometers. Taking full advantage of its unique time-of-flight properties, the IBR-2 reactor, together with the broadband cold-moderator complex, demonstrates the potential competitiveness of the proposed instruments upgrade with the third-generation neutron facilities. The PAC recommended that the FLNP Directorate pay attention to the conceptual design of instruments, which must effectively utilize the advantage of combining the cold moderator and the long neutron pulse. This development is especially valuable in nanosciences.

The PAC appreciated the report, presented by E. Krasavin, on the progress of implementation of the scientific programme of the Laboratory of Radiation Biology. The PAC noted the importance of construction of a state-of-the-art confocal microscope by the SOLAR company (Belarus) for LRB. This instrument may be a unique basic facility for a number of JINR Member States in the fields of molecular biology, cell biology, radiation genetics, and other applications. The PAC stressed the need for creating a corresponding infrastructure around this facility with adequate funding.

The PAC heard with interest the scientific reports: «Cobaltites: Physical and Chemical Properties, Field of Use» (I. Troyanchuk, ISSP&S NAS, Belarus), «Fully Extended Conformation of Ceramide Molecules is Fundamental for the Nanostructure of Stratum Corneum» (M. Kiselev, JINR), «New Features in Collective Dynamics of Intrinsic Josephson Junctions» (Yu. Shukrinov, JINR). These reports were noted as good examples of basic studies which can have important practical application.

The PAC noted with interest the poster presentations by JINR young scientists in the fields of condensed matter sciences and development of neutron scattering instrumentation. The PAC appreciated very much the increased number of high-quality scientific reports and poster presentations and recommended that these activities be continued.

The 29th 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 103rd session of the JINR Scientific Council (February 2008) and

about the decisions of the JINR Committee of Plenipotentiaries (March 2008).

The PAC welcomed the decision of the Committee of Plenipotentiaries to address the governments of the Member States with a proposal to make provisions for an increase of the JINR budget in 2011–2015 with a view to creating an in-house facility base attractive to the Member States and world scientific community (Nuclotron-M and NICA/MPD, DRIBs-III, and a complex of state-of-the-art neutron spectrometers for the modernized reactor IBR-2M).

The PAC was pleased to learn about the visit to JINR, on 18 April 2008, of the President of the Russian Federation, D. Medvedev, together with leaders of government agencies and regions of the host country. The PAC noted with satisfaction that President D. Medvedev highly appreciated the results of JINR's basic research and underlined the role of science in the innovation process, and that he expressed his positive attitude to the plans to increase the JINR budget in 2011–2015.

The PAC congratulated A. Sissakian on being elected a full member of the Russian Academy of Sciences and a member of the Academy Presidium, and wished him much success in his scientific activity and in his work as Director of the Joint Institute for Nuclear Research.

Several topics were devoted to the Nuclotron-M and NICA/MPD programmes. The PAC took note of the report on progress towards realization of the Nuclotron-M/NICA projects. The PAC was impressed by the report by G. Trubnikov concerning the new intensity and approach in this activity, as well as by the very positive report from the Machine Advisory Committee for the Nuclotron-M/NICA accelerator complex. The PAC noted with interest the proposed scientific programme of the Nuclotron-M/NICA projects and endorsed the main scientific directions of this theme. It was recommended that the scientific observables for the mixed phase and potential future spin physics programmes be sharpened by detailed simulations to document the requirements for the success in a forthcoming white paper on this topic. In the opinion of the PAC, the NICA/MPD programme will be an important means to attract to and retain young scientists and engineers at JINR. Once the scientific justification and technical feasibility of the NICA/MPD programme have been firmly established, the PAC recommended that the JINR Directorate present the case for the NICA/MPD programme to the relevant international advisory bodies, such as ECFA or NuPECC, in order to gain international credibility, and to explore the possibility of integrating this project in the international accelerator development programme.

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, in particular on the recent visit of the ILC GDE,

where information concerning possible siting of the ILC in the Moscow Region was actively discussed. The PAC noted that to build credibility as a potential host laboratory for the ILC, adequate resources from the JINR Directorate would be necessary to allow technical developments and contributions to the ILC development.

The PAC noted the information that the JINR groups taking part in the ALICE, ATLAS, and CMS experiments are ready to obtain first physics results at the time of the LHC start-up. The PAC looks forward to a report on the first experience with detector performance and LHC data analysis at JINR at its next meeting.

The PAC took note of the report, presented by LIT Director V. Ivanov, on the current status of the JINR Central Information and Computing Complex (CICC). The PAC noted the achievement of the CICC performance at the end of 2008. On behalf of the CICC user community, V. Bednyakov presented information concerning the experience of using JINR's computing infrastructure. According to the users, although a large amount of work is being done on the improvement of the CICC performance, a certain misbalance exists in favour of future activities, in particular the LHC experiments, compared to support for ongoing experiments. The PAC noted that the feedback from the users is very essential for the development of the JINR computing and network infrastructure. The PAC recommended that the LIT Directorate have regular meetings with the CICC users.

The PAC considered the proposal of a new project «JINR's Participation in the Daya Bay Neutrino Experiment» and recommended its approval for execution until the end of 2011. The PAC emphasized the importance of the participation in this promising experiment and the positive impact that it will have on further development of the scientific relations between the People's Republic of China and JINR.

The PAC considered the research activities previously approved for completion in 2008. The PAC recommended closing the themes «Particles and Fields» and «Modern Mathematical Physics» and approval for opening new themes «Theory of Elementary Particles» and «Modern Mathematical Physics: Gravity, Supersymmetry, Integrability» for execution until the end of 2013. The PAC recommended continuation of the activities on the COMPASS project until the end of 2010, on the projects CDF, D0, BECQUEREL, NA49, NN & GDH, THERMALIZATION, and on the theme «Physics and Engineering of Feedback Systems in Synchrotrons» until the end of 2011. The activity for the NUCLEON project was recommended to be continued under DLNP's internal laboratory theme.

The PAC noted with interest the report «Spin Physics at the NICA Accelerator Complex» presented by A. Nagaytsev.

The 28th meeting of the Programme Advisory Committee for Condensed Matter Physics was held on 16–17 June. It was chaired by Professor W. Nawrocik.

JINR Chief Scientific Secretary N. Russakovich informed the PAC about the Resolution of the 103rd session of the JINR Scientific Council (February 2008) and about the decisions of the Committee of Plenipotentiaries (March 2008).

The PAC listened to a report about the status of the modernization of the IBR-2 reactor and was pleased to note that this work is proceeding well and according to schedule. The PAC supported the reported plan concerning the technical and financial activities for the reactor modernization, taking into account its previous recommendations on the priority work for completing the complex of cryogenic moderators.

The PAC made the following recommendations on the themes previously approved for completion in 2008 and on the proposed new themes of research:

— on the theme «Development and Creation of Elements of Neutron Spectrometers for Condensed Matter Investigations» and on the report of the proposed programme of research for the next years. The PAC recommended extension of this theme until the end of 2011 and suggested that consideration be given to improving the transport of cold neutrons from the moderator to the start of the instrument beam lines;

— on the theme «Radiation and Radiobiological Investigations at the JINR Basic Facilities and in the Environment». The PAC recommended its extension until the end of 2011, noting the high quality of radiobiological research conducted at LRB. The PAC heard with much interest the information about the development, jointly with other JINR laboratories, of a new cancer cell control method using nanotechnology and super-high frequency penetrating electromagnetic radiation, and suggested that work in this promising direction should be supported. Another new important aspect of the LRB activity is the implementation of a unique, powerful confocal Coherent Anti-Stokes Raman Scattering microscope as a basic facility that allows achieving the front line of biological studies at the cellular level. The PAC also suggests that studies of radiation damage in biological objects induced by high-energy neutrons be considered for inclusion in the LRB programme;

— on the closing theme «Neutron Investigations of the Structure and Dynamics of Condensed Matter». The PAC expressed its appreciation of the high level of research activities and important scientific results obtained in the fields of complex magnetic oxides, magnetic fluids, multilayer superconducting films, and lipid multilayers;

— on opening a new theme «Investigations of Nanosystems and Novel Materials by Neutron Scattering Methods». The PAC recommended its approval until the end of 2011. The PAC appreciated the ex-

tended field of experimental activity based on the combined exploitation of Russian, JINR's, and internationally available neutron scattering facilities. It also noted the overriding importance of implementing the user programme at the spectrometer complex of the upgraded IBR-2M reactor;

— on the theme «Radiation Effects and Modification of Materials, Radioanalytical and Radioisotopic Investigations at the FLNR Accelerators». The PAC recommended its extension until the end of 2011. The studies performed under this theme cover a broad range of application-oriented scientific tasks and reflect modern trends in radiation physics, materials research, radiochemistry and accelerator technology. The PAC noted the evident interest of the JINR Member States in this research programme;

— on the closing theme «Theory of Condensed Matter». The PAC noted the important results obtained within the theme, in particular in the field of complex materials and nanostructures, mathematical problems of many-particle systems, and the theory of self-organized criticality. The PAC considered a proposal for opening a new theme «Theory of Condensed Matter and New Materials» and recommended its approval until the end of 2013;

— on the theme «Organization, Maintenance and Development of the University-Type Educational Process at JINR». The PAC recommended extension of this theme until the end of 2013. The PAC appreciated the impressive progress of the JINR Educational Programme, pursued by the University Centre (UC) during the last 10 years, in particular the increased number of students and JINR-based university departments, the successful organization of the international practice for students of JINR Member States, and the creation of educational infrastructure. The PAC supported the proposal by the UC Director concerning the increase of the budget required to complete the creation of student laboratories and to enlarge the number of PhD students.

The PAC received a report concerning the priorities in the development of spectrometers for the IBR-2M reactor. The PAC approved the realization of the first-priority projects DN-6, GRAINS, and SKAT/EPSILON, and recommended that the existing instrument suite should receive the funding necessary for operation. Future projects should include improvements to instruments which can contribute to the study of nanomaterials.

The PAC was informed about the ongoing research in the field of radiotherapy with JINR hadron beams. The PAC welcomed the efforts taken by the JINR Directorate for the establishment at 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. At the same time, the PAC considers it necessary that the clinical research using the DLNP Phasotron proton beams should

be continued until the Centre for Radiation Medicine has been commissioned.

The PAC heard with interest the scientific reports: «EXAFS-Spectroscopy Method in Condensed Matter Physics: First Results from the Energy-Dispersive EXAFS Station at the RRC "Kurchatov Institute"» presented by V. Efimov, «Investigations of the Structure of Nanoobjects Using a Laser Scanning Confocal Microscope» presented by S. Tyutyunnikov, and «Development of Inelastic Neutron Scattering Methods for Research of the Molecular Dynamics of Condensed Matter» presented by I. Natkaniec.

The 28th meeting of the Programme Advisory Committee for Nuclear Physics was held on 19–20 June. It was chaired by Professor W. Greiner.

JINR Vice-Director M. Itkis informed the PAC about the Resolution of the 103rd session of the Scientific Council (February 2008) and about the decisions of the Committee of Plenipotentiaries (March 2008).

The PAC was pleased to learn about the visit to JINR of the President of the Russian Federation, D. Medvedev. Together with leaders of government agencies and regions of the host country, the President was presented with information on the research work of the Flerov Laboratory of Nuclear Reactions, in particular on the discovery of superheavy elements, and on other areas of the Institute's activity.

The PAC discussed in detail the status and trends of possible investigations within the theme «Synthesis of New Nuclei and Study of Nuclear Properties and Heavy-Ion Reaction Mechanisms», presented in the report by FLNR Scientific Leader Yu. Oganessian. The PAC endorsed the activity of the Flerov Laboratory of Nuclear Reactions, in line with the previous recommendations of the PAC, aimed at modernizing the cyclotrons and extending the experimental potential of the Laboratory. However, taking into account the need of a new perspective of studies of both neutron-rich light nuclei and superheavy nuclei, the PAC recommended that the Laboratory start a detailed consideration of a long-term plan for the development of the FLNR accelerator complex and experimental facilities, and present it at the next PAC meeting. The main purpose is the quantitative increase of the efficiency of experiments at least by one order of magnitude to allow the Laboratory to keep its leadership during the next decades.

The PAC made the following recommendations on the themes previously approved for completion in 2008 and on the proposed new themes of research:

— on the closing theme «Nuclear Theory». The PAC expressed its high appreciation of the results obtained in the main research directions: nuclear structure far from the stability valley, nucleus–nucleus collisions at low energies, few-body systems, nuclear dynamics at relativistic energies, properties of hot and dense nuclear matter. The PAC also appreciated the educational activities of BLTP and relations of theoretical studies to the

JINR experimental programme. The PAC considered the proposal for a new theme «Nuclear Structure and Dynamics» and recommended its approval for the years 2009–2013 with first priority. It was suggested that the continuation of nuclear theory activities under this new theme should incorporate a complex and broad view on the various aspects of nuclear structure and dynamics;

— on the theme «Organization, Maintenance, and Development of a University-Type Education Process». The PAC recommended its extension for the years 2009–2013 with first priority. The PAC supported the proposal by the UC Director concerning the increase of the budget required to complete the creation of student laboratories and to enlarge the number of PhD students. The PAC suggested that a detailed educational programme, including a list of lectures, lecturers and time table, be presented for consideration at the next PAC meeting;

— on the theme «Construction of the IREN Facility». The PAC highly appreciated the efforts of the JINR Directorate and the laboratories involved in the implementation of this project, and considered the plans to start up the facility at the end of 2008 rather realistic and also appreciated the efforts of FLNP's Nuclear Physics Department on the preparation of the experimental infrastructure at IREN Phase I. The PAC recommended that this theme be finished in 2008, and the financial resources for the maintenance, operation and development of the IREN facility be kept within the theme «Nuclear Physics with Neutrons: Fundamental and Applied Investigations».

The PAC heard with interest the proposed experimental programme for the first stage of IREN. The expected parameters of IREN-1 are far from the record ones; however, they could be sufficient to perform measurements of cross sections for fissile nuclei, constructive materials and nuclear astrophysics, and applied physics, as well as some interesting physics experiments such as preparatory and test experiments aimed at searching for P - and T -violation processes. The PAC recommended concentrating the available human, financial and technical resources of FLNP's Nuclear Physics Department mainly on the realization of the proposed scientific programme for IREN-1 and on the development and preparation of the programme for the full-scale IREN facility.

The PAC heard with interest a status report on the theme of muon catalysis experiments at the DLNP Phasotron. The final results about the tritium–tritium fusion were presented in excellent agreement with theory and previous experiments. The next step will be the measurement of the $dd\mu \rightarrow {}^4\text{He} + \mu + \gamma$ reaction, which is now ready for execution. The PAC supported the continuation of the muon catalysis programme with study of the $dd \rightarrow {}^4\text{He}$ fusion reaction. After that a conclusive run of deuterium–tritium fusion should be considered due to the uniqueness of the tritium facility available at DLNP.

As requested by the PAC at the previous meeting, it was presented with information about the new project being developed at JINR — NICA/MPD. The PAC was particularly pleased with the presentations of new results and proposals by young scientists in the field of nuclear physics research and recommended that

this type of presentations should be continued in the future.

The PAC heard with interest the scientific reports «Reactions with Exotic Nuclei at FLNR» presented by V. Zagrebaev and «Triple Collisions in Stellar Plasma» presented by V. Belyaev.