

I. General considerations

The Scientific Council takes note of the most comprehensive report presented by JINR Director A. Sissakian on the implementation of the recommendations made at the 101st session of the Scientific Council and on the main directions of JINR's strategic development.

The Scientific Council is pleased to note the successful implementation of the recommendations made at its previous session which concern the development and upgrade of the JINR basic facilities and the efforts of the Directorate towards optimization of the human resources and of the partnership programme with other research laboratories. The Scientific Council also notes that the fundamental research activities in the main scientific directions of the Institute — particle physics, nuclear physics, and condensed matter physics — as well as information technology, innovative developments and educational activities have been successfully advancing in 2007.

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

The Scientific Council recognizes the new efforts by the JINR Directorate to intensify regular interactions with official bodies and scientific communities of the Member States. It is pleased to learn about the renewal, after a long gap, of the participation of the Republic of Cuba in the activities of the Institute.

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

The Scientific Council highly appreciates the fruitful work of the Institute Directorate to involve new countries and partners in the activities of JINR. It is pleased to learn about the signature of the Agreement on Cooperation between JINR and the Ministry of Science and Environmental Protection of the Republic of Serbia, which took place in Dubna in April 2007. Based on this agreement, the Republic of Serbia has become an associate member

of JINR.

The Scientific Council also appreciates the Agreement in the Field of Science, Innovation and Education, signed in August 2007 between JINR and the Sakha (Yakutia) Republic of the Russian Federation.

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

During the general discussion, many important points relating to the functioning of the Institute, funding for different programmes, etc. were brought out. The Scientific Council generally supported the orientation of the JINR Directorate and urges it to take the Council's views into account when formulating its future action plans.

II. Awarding of the title “Honorary Doctor of JINR”

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

III. Considerations concerning JINR's scientific programme

The Scientific Council takes note with interest of the plans for the JINR future activities in particle physics and relativistic nuclear physics, in nuclear physics and condensed matter physics, presented by Vice-Directors R. Lednický and M. Itkis as part of an updated road map of the JINR long-term research programme.

The Scientific Council regards as extremely important those provisions of the outlined road map of JINR's strategic development which concern the upgrade and development of the home facilities, especially the programme on the NICA/MPD facility, and improvement of the Institute infrastructure, particularly pertaining to IBR, DRIBs and IREN activities.

The Scientific Council supports the actions aimed at effective participation of scientists from the Member States in large international projects, afforded by modern computing and enhanced telecommunication infrastructure, during their work in Dubna.

The Scientific Council supports the emphasis on the development of basic and applied research in the field of nanoobjects and nanotechnologies, taking into account the relevance and today's great demand for such new technologies. Activities in this priority

field as well as in radiobiology and medical research are well matched with JINR's basic facilities and expertise.

The Scientific Council takes note of the accident with the klystron for the IREN facility and its impact on the IREN project schedule. The Scientific Council urges the Directorate to take all measures to avoid such accidents in future and favours renewed effort to shorten the accumulated delay with IREN start-up.

The Scientific Council takes note of the progress reports on current activities: "Modernization of the IBR-2 reactor" presented by FLNP Director A. Belushkin, "Construction of Phase I of the IREN facility", presented by FLNP Deputy Director V. Shvetsov, "Activity for the DRIBs project" presented by FLNR Director S. Dmitriev, "Preparation of the JINR computing infrastructure by the time of LHC start-up" presented by LIT Director V. Ivanov, "Ongoing developments at JINR related to the ILC" presented by Chief Engineer G. Shirkov, "Preparation of the Technical Design Report for the modernization of the Nuclotron and planned activities for the NICA project" presented by VBLHE Director V. Kekelidze and BLTP Deputy Director A. Sorin. The Scientific Council highly appreciates the activity of the JINR University Centre as presented by UC Director D. Fursaev.

IV. Recommendations in connection with the PACs

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

Particle Physics Issues

The Scientific Council appreciates the active participation of JINR in the ILC project as outlined in the PAC report and would like to be informed regularly about the progress of this activity.

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

The Scientific Council reiterates its previous recommendation about presenting a comprehensive plan for the JINR future activities in relativistic ion physics, including FAIR, the Nuclotron and NICA.

The Scientific Council shares the opinion of the PAC that a crucial step in the successful realization of the NICA/MPD project will be the development of a

comprehensive, resource-loaded project plan, which should be reviewed by an independent, international panel of experts.

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

The Scientific Council supports the recommendations of the PAC on the new projects: "Search for the $K_L^0 \rightarrow \pi^0 \nu \tilde{\nu}$ decay at IHEP's U-70 accelerator (project KLOD)" and "JINR's participation in the BES-III physics research programme (project BES-III)", and on the continuation of the current activities beyond 2007, as outlined in the PAC report.

Nuclear Physics Issues

The Scientific Council notes the important new results obtained recently at FLNR in the field of radiochemical investigation of superheavy elements with $Z=112$ and 114 and strongly recommends intensive effort leading to new developments in this field.

The Scientific Council appreciates the upgrade of the U400M cyclotron already underway. The acceleration of low-energy beams at U400M will extend the experimental capabilities of the Flerov Laboratory and allow an uninterrupted running of experiments during the forthcoming modernization of U400. Timely preparation of experimental equipment is an essential prerequisite for the realization of the FLNR research programme. The Scientific Council supports the programme of modernization of the FLNR cyclotron complex and looks forward to its rapid realization.

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

Condensed Matter Physics Issues

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

For the last 20 years, a unique complex of neutron spectrometers has been created at

the IBR-2 reactor and large experience has been accumulated in neutron-aided research in physics, chemistry, materials science, biology, geology and other sciences. The shut-down of IBR-2 for modernization gives the most convenient opportunity for the comprehensive upgrades of the existing spectrometers and for the construction of a number of new ones. The Scientific Council strongly recommends taking necessary steps to provide organizational and financial support for the programme of the development of neutron spectrometers prepared by FLNP. It is only through the realization of this programme that the effective and innovative exploitation of IBR-2M beginning 2010 will become possible.

V. Memberships of the PACs

As proposed by the JINR Directorate, the Scientific Council appoints Professor J. Nassalski (INS, Warsaw, Poland) as Chairperson of the PAC for Particle Physics for a term of three years.

The Scientific Council thanks Professor T. Hallman for his very highly successful work as Chairperson of the PAC for Particle Physics, and looks forward to the continuation of his work as member of this PAC.

As proposed by the JINR Directorate, the Scientific Council appoints Professor N. Walker (DESY, Hamburg, Germany) as new member of the PAC for Particle Physics for a term of three years.

The Scientific Council thanks Professors N. Giokaris and H.D. Trines for their very successful work as members of the PAC for Particle Physics.

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

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

The Scientific Council confirms the mandates of the PACs with their present memberships (Appendix) until September 2010 and looks forward to the rotation of PAC members as stipulated by the Regulation for the JINR PACs.

VI. Scientific reports

The Scientific Council notes with interest the scientific reports presented at this session: "Physics Programme of the JINR Group in the BES-III Experiment", "Latest Experimental Results at the Tevatron, and the FNAL–JINR Cooperation", "Commissioning of the VEPP-2000 Collider at the Budker Institute of Nuclear Physics and the Research

Programme” and thanks the speakers A. Zhemchugov, E. Kajfasz, and Yu Shatunov for their informative presentations. The Scientific Council strongly favours more young scientists presenting their work at its future sessions.

VII. Nominations

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

The Scientific Council announces the vacancy of the position of Director of the Laboratory of Information Technology. The election for this position will take place at the 103rd session of the Scientific Council.

VIII. JINR prizes

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

IX. Next session of the Scientific Council

The 103rd session of the Scientific Council will be held on 21–22 February 2008.

A. Sissakian

Chairman of the Scientific Council

I. Wilhelm

Co-chairman of the Scientific Council

N. Russakovich

Secretary of the Scientific Council