

## Academician Prof. Dr Kiril Borisov Serafimov

Born on May 24th, 1932 in Sofia. Married, with three children. Graduate of the Mechano-Technical Secondary School of Sofia in 1951 as the top student of his alumnus. Graduated from the V. I. Lenin Higher Mechanical and Electrical Engineering Institute as an outstanding student in radio engineering.

In 1957 he became Research Fellow at the Scientific Research Institute of Communications (NIIS). There he initiated the establishment of ionospheric stations and multiple technical developments. He was trained in the field of ionospheric research at the Soviet Institute for Earth Magnetism, Ionosphere and Radiowave Propagation in 1958. Since the beginning of 1961 worked in the Geophysical Institute of the Bulgarian Academy of Sciences. In 1964 became Candidate of the Physico-Mathematical Sciences at the Lomonosov State University of Moscow. In 1969 defended a thesis and became Doctor of the Physico-Mathematical Sciences in the field of space physics at the University of Rostov-on-Don. *Pravda* newspaper frontpaged two columns on this Doctor's thesis. In 1965 he was elected Senior Research Fellow, II grade, and in 1973 became Professor.

With the establishment of the National Committee for Space Research in January 1967 he was elected its Secretary. Since 1973 he has been Vice-President and since 1977 President of this Committee.

From 1972 to 1975 held the post of Deputy Director of the Centre for Earth Sciences. Between 1973 and 1977 he was Scientific Secretary of the Bulgarian Academy of Sciences. Since 1977 he has been member of the Presidium of the Bulgarian Academy of Sciences. Since the establishment of the Group for Space Physics (in 1969) K. B. Serafimov has been its Deputy Director and in 1973 became Director of the Group. In 1974 this Group was transformed into the Central Laboratory for Space Research. He has been its founder and Director ever since. From 1979 to 1982 he was Director of the Astronomical Department with the National Astronomical Observatory.

In 1969 K. B. Serafimov became Vice-President and since 1978 he has been President of the Bulgarian Astronautical Society. Since 1977 he has been member of the Presidium of the Union of Bulgarian Scientists, and since 1982 — Secretary General of this Union.

He has been President of the National Committee for Radio Sciences since its establishment in 1975. He is member of the National Committee for Geodesy and Geophysics and of other bodies. Since its establishment in 1980 he has been President of the Council for Technical and Scientific Research

of the Youth. He is Vice-President of the Council of Science Promotion at the Bulgarian Academy of Sciences.

Kiril Serafimov is Editor-in-Chief of the *Space Research in Bulgaria* journal, member of the Bureau of the Editorial Board of the *Review of the*



*Bulgarian Academy of Sciences*, and on the Editorial Board of the international scientific journal *Advances in Earth-Orientated Applications on Space Technology*, as well as of the *Bulgarian Geophysical Journal*, *Military Technology*, *Fatherland*, *Science and Technology for Youth*, *Youth, Wings*, etc. He was scientific observer for the *Zemedelsko Zname* newspaper between 1968 and 1979. Since 1979 he has been scientific observer for the *Rabotnichesko Delo* newspaper.

He is the author of more than 420 scientific contributions (developments, publications, inventions) and of five monographs. His works were published in international issues of repute. Over 600 of his citations have been referred to in Bulgaria and abroad. A series of his studies have been adopted as UN documents and by other international organizations.



The principal scientific achievements of Academician Prof. Dr Kiril Serafimov lie within three domains: ionospheric, magnetospheric, and radiowave propagation physics, space instrumentation and satellite communications. The establishment and successful development of the vertical ionospheric probing, of the space plasma direct measurements with satellites and rockets, the design and construction of Bulgarian space instruments, the measurement of natural optical emissions and the theory of space communications have been led by him. Series of background works on space problems in the field of social sciences are also his contribution. He supervised and actively participated in determining the optimal location of the Bulgarian station for space communications and of the Bulgarian telemetric station, an effort highly acknowledged by the Soviet specialists. He was the principal investigator in the elaboration of many themes on the electromagnetic compatibility of various radio-electronic techniques, radio goniometry, etc. K. B. Serafimov was the programme manager of the Bulgarian participation in the experiments with the Soviet satellites COSMOS-261, 348, 381 and the international spacecraft INTERCOSMOS-2, 8, 12, 14, 19, as well as with the heavy geophysical rockets VERTICAL-3, 4, 6, 7, 10, etc. He is the initiator and the head of the Bulgaro-Indian project for studying the precipitating proton particles over the equator. Theoretical and ground-based studies have been made within this project and two Indian CENTAUR-II rockets with Bulgarian and Indian equipment were launched. He was President of the Programme Committee for the flight of the Bulgarian cosmonaut and was the initiator and head of some experiments for this flight within the field of space physics and remote sensing of the Earth. He supervised the elaboration of all Bulgarian systems, instruments and devices for the SALYUT-6 orbiting station. He was the initiator and the principal investigator of BULGARIA-1300 space project. METEOR-PRIRODA and INTERCOSMOS-BULGARIA-1300 satellites were launched within the framework of this project in 1981 with complex Bulgarian equipment.

The contribution of Academician Kiril Serafimov to the economic problems of the space research, to the orientation and organization of the large space scientific-production groups and to the optimization of space operations are of significant importance for the increase of efficiency in space study and exploration. The first studies into the history of space research in Bulgaria were made by him and he made the first original chronology of the INTERCOSMOS history. Together with the Bulgarian cosmonaut Georgi Ivanov he worked on two interesting problems: the effect of the space era on the cultural development, and the effect of space flights on global human psychology. In his fundamental monograph on socialist integration in space he outlined the main trends of study within this extremely effective and efficient domain of cooperated efforts of the socialist countries.

Academician Serafimov founded and supervised the developments of the space technology transfer in Bulgaria. He initiated and is heading a significant part of the multiplication use of space technologies, methods, means, circuitry solutions, constructions and other elaborations in the non-space fields of the national economy.

He is President of the Specialized National Scientific Council of Geophysical Sciences at the Higher Testimonial Committee and of the Scientific Councils at the Central Laboratory for Space Research and the Astronomical Department with the National Astronomical Observatory at the Bulgarian Academy of Sciences. He was elected Corresponding Member of the Bulgarian Academy of Science in 1977 and Regular Member in 1984.

Academician Serafimov has been Corresponding Member of the International Astronautical Academy in Paris since 1969 and Regular Member since 1984. He has been member of the Programme Committees for the International Astronautical Congresses since 1972. He has held membership in the Bureau of the World Committee for Space Research (COSPAR) since 1975. He was the Chairman of the Working Group G. 7 of the International Radio Scientific Union (URSI). Kiril Serafimov has presided over Section I "Upper Atmosphere and Magnetosphere of the Earth and the Planets" of INTERCOSMOS since its establishment. He was President of the Permanent Working Group on Space Physics (1974-1975; 1981-1982), and President of the entire INTERCOSMOS programme (1979-1980). From 1974 to 1982 he presided over the Bulgarian side of the Bulgaro-Indian Commission for Scientific and Technical Cooperation and since 1976 has been President of the Bulgarian side of the Commission for Scientific and Technical Cooperation with Greece. He was awarded medals by the Intercosmos Council, the Academies of the GDR, Poland and other countries.

He led the Bulgarian delegations on the Scientific and Technical Subcommittee of the UN for the Peaceful Exploration of Outer Space. At the second conference of the UN on this subject (UNISPACE-82) he was nominated Vice-President of the Conference. He was awarded the Order of Cyril and Methodius, 1st grade (1969), the Gold Order of Labour (1973), Marin Drinov Medal, the Gold Decoration of the Bulgarian Astronautical Society, the Order of Georgi Dimitrov (1984) and received many other government decorations and distinctions from other organizations. Since 1980 he has been a Honoured Scientist of Bulgaria.

The activity of Academician Kiril Serafimov within the entire framework of the Bulgarian Academy of Sciences is extremely useful. He manifested capacities of a learned, capable contemporary scientist with broad views and initiative, as well as talent for organization. In a short period the Central Laboratory for Space Research at the Bulgarian Academy of Sciences under the leadership and with the stimulating help and assistance of the Presidium and the President of the Academy, Academician A. Balevski, has developed into a centre for research and exploration of space.

When a new space project or elaborations come into being, Academician K. Serafimov would set up the problem in such a way that the respective specialists, scientists, constructors or technicians would willingly respond personally, through their work, results, plans, suggestions. This ability of his is enthusiastically supported by the young staff of the Central Laboratory for Space Research, who as a rule look forward to facing unresolved and important problems in the field of space research.

Special mention deserves the capacity of Academician Serafimov to work with the young specialists. He has repeatedly stated that "... the young people should be given the opportunity to develop not on the basis of qualification alone, but on their actual creative achievements...".

Highly valued is Academician Serafimov's activity within the framework of the INTERCOSMOS programme as one of its founders, maintaining all-round, long-term and extremely successful cooperation with the USSR, the Soviet science, scientists and specialists. Multiple are the joint scientific projects in space testifying to the great creative talent of the hero of the jubilee.

He is a brilliant and worthy representative of Bulgarian science and technology, his opinion and recommendations are sought and highly esteemed at the UN forums, COSPAR congresses, the administration of INTERCOSMOS, the programme and nomination committees of IAA, IAF, etc.



Academician K. Serafimov has published many works in this country and abroad. His overall activity for the establishment and implementation of projects and studies, for the results obtained is valued extremely high. He was flatteringly described in the recently published book by the first Bulgarian cosmonaut Col. Eng. G. Ivanov *Flights*. On page 179 it reads "...I've only heard about Serafimov. But I understood that he is a man of inspiring personality, combining the 'projective' and 'generating' features of a scientist and organizer, exclusively diligent and capable of extreme physical efforts and hypertense mental activity. Author of many scientific works of worldwide importance, promoter of science, he is a skillful, temperamental and well-founded publicist. So, no wonder, that he successfully represents our country on the international space field and the world space forums, that he is member of many national and international organizations. The energy and ambition he invested in our training were only part of his entire contribution to us, along with purely scientific cooperation. We were lit up by his noble flame and experienced his passion and ambition to rank our Fatherland among the leading space countries..."

At his 50th birthday and the 25th anniversary of his scientific activity let us wish him good health, greater and still more significant success in the study and exploration of space for the well-being of our dear Socialist Republic of Bulgaria.

*Corr. Member, Prof. D. Mishev; Sen. Res. Dr F. I. Kutiev;  
Prof. Dr M. M. Gogoshev; Sen. Res. Dr F. S. Chapkunov*