

In memory of Igor' Vladimirovich Savel'ev

DOI: 10.1070/PU2000v043n02ABEH000697

Professor Igor' Vladimirovich Savel'ev, Doctor of Science in Physics and Mathematics, bearer of the title of Honoured Scientist, died on March 3, 1999. It is probably no exaggeration to say that Professor Savel'ev's life and works mark an epoch in the history of teaching general physics at institutions of higher technical education in this country.

His name belongs to the history of Russian culture as the founder and indisputable leader of an original pedagogic school based on his widely-known landmark textbook of general physics for technical institutions of higher education first published in three volumes that together span the whole of the subject. There is little doubt that the universally recognized achievements of Russian scientists in physics and technology are in a large measure due to the fact that tens of thousands of students grew into full-fledged professional experts in contemporary areas of research by studying general physics from Savel'ev's textbooks which he continued to revise and update for 35 years, till the end of his life.

Igor' Vladimirovich Savel'ev was born on 4 February 1913 in the large village of Kabanie (now Krasnorechenskoye), in the Kupyanskiĭ district of Khar'kov province, Ukraine. He was the son of a practising physician employed by the local self-government council ('zemstvo'). In 1938, he graduated from the Physical Department of the Khar'kov State University (KhGU), qualified as a specialist in solid-state physics. He immediately associated himself with the Ukrainian Physico-Technical Institute (UPhTI) in Khar'kov where he worked for the next three years. During this period he initiated and completed the research which earned him the candidate of science (PhD) degree. He defended his thesis on "Heat Conductivity of Steel at Low Temperatures" in February 1941, on the eve of the German attack on the Soviet Union in June.

I V Savel'ev was a World War II veteran who served in the military forces from the beginning to the end of hostilities between the Soviet Union and Germany as a technician in an anti-aircraft artillery regiment of the Separate Air-Defence Army which had the special task to protect Moscow from bombing raids of the Luftwaffe.

After his discharge from active military service in July 1946, I V Savel'ev joined the staff of Laboratory No. 2 (now the Russian Research Centre 'Kurchatov Institute') where he started to work in the Department of Heat Control Instruments (now the Institute of Molecular Physics of the above Centre) which was at that time headed by Isaak Konstantinovich Kikoin and concentrated on the separation of uranium isotopes using the gas diffusion process. I V Savel'ev studied the reaction rates of uranium hexafluoride gas at the surface of various materials. In 1951, a series of studies performed by I V Savel'ev earned him the 2nd class State (Stalin) Prize for what was then officially stated as 'the



Igor' Vladimirovich Savel'ev
(04.02.1913 – 03.03.1999)

solution of a special task vital to the state'. The same year, he received the Order of Lenin. In 1952, I V Savel'ev was granted the doctor of science degree in physics and mathematics.

His main interest, however, lay in the teaching of physics to which he totally devoted the last 47 years of his life. I V Savel'ev started his pedagogic career in 1952 as a professor at the Department of General Physics, Moscow State Engineering Physics Institute (MEPhI). In March 1955, he became a full-time member of the Institute's staff and was soon promoted to prorector (vice-rector) responsible for academic matters, the post he held from 1956 till 1959. That year, I V Savel'ev was elected head of the General Physics Department which worked under his leadership for the next 26 years.

Feeling a vocation for teaching, I V Savel'ev devoted many years of his life to the education and training of physical engineers. The department headed by I V Savel'ev was famous for the high level of teaching and still remains one of the best educational facilities of its kind in this country.

I V Savel'ev initiated and supervised the establishment of the Faculty of Advanced Education for teachers of general physics in higher education establishments. The new faculty was based on the Faculty of Experimental and Theoretical Physics, MEPhI. For a quarter of a century (1976–1991), graduates of the Faculty became the thousands of specialists who still teach general physics in practically all institutions of higher technical education in Russia and CIS countries.

I V Savel'ev was known in Russia, the CIS, and other countries as an outstanding educator, a recognized authority in the teaching of physics at institutions of higher education. His unparalleled pedagogic experience was summarized in several textbooks and books of practical problems in mathematics which were republished many times and served as the most valuable aids to students of many institutions of higher education.

Of these textbooks, the most distinguished for the comprehensive coverage of the subject is the three-volume *Course of General Physics* intended for students of higher technical institutions having an advanced curriculum. In this country alone the textbook was reprinted nine times (the last edition was issued in 1998 as a set of five volumes), with the circulation totalling more than 4,000,000 copies. Other editions most worthy of note were the *Course of Physics*, in three volumes, for institutions of higher technical education with a traditional curriculum, *Collected Questions and Problems in General Physics*, etc.

Moreover, Savel'ev's textbooks were translated into practically all the major state languages of the Republics of the former Soviet Union and also into English¹, French, Spanish, Polish, Vietnamese, Afghan (Dari), and Arabic. In other words, students in India, Egypt, Latin America, Poland, Algeria, Vietnam and many other countries educated themselves in general physics by studying the books of a Russian author.

For many years, I V Savel'ev actively participated in the work of the Presidium of the Scientific and Methodological Council on Physics established by the Higher Education Teaching and Methodological Department, USSR Ministry of Higher Education. He also worked for the Section of Educational Literature of the same Council and for the Editorial Board of the Mir Publishing House.

I V Savel'ev received many official honours for his scientific and pedagogical activity including the Order of Lenin (1951), two Mark of Honour Orders (1954 and 1966), the Order of the Patriotic War (2nd degree, 1985), and many medals.

After 1985, I V Savel'ev worked as a consulting professor for the Department of General Physics, MEPhI. He remained active till the last year of his life sharing his great knowledge and valuable experience, improving his textbooks and preparing them for republishing. I V Savel'ev was an indefatigable and meticulous revisor of his own books; none of them was reprinted as a stereotype edition. After the country had fallen on hard times, the last-cherished dream of his was to see the new edition of the *Course of General Physics* published during his lifetime. He was happy to receive, by good luck, this gift: a set of five volumes was issued by Nauka Publishers when I V Savel'ev was 85.

The books of I V Savel'ev stand as a monument of Russian scientific culture and history. The greater part of his life as a scientist and educator was passed within the precincts of the State Engineering Physics Institute in Moscow. Now, its large physics lecture hall bears the name of I V Savel'ev.

To those colleagues and associates who were fortunate to be on close terms with Igor' Vladimirovich Savel'ev, he always appeared as a good-humored, companionable man, with a great deal of fun in him. His 'red paper-case' was a receptacle of all sorts of anecdotes many of which are worthy of a place in the next issue of the popular *Physicists' Jest-Book*.

Igor' Vladimirovich Savel'ev knew how to win people over by a jovial demeanour and readily attracted friends and acquaintances. His working room was a place where an occasional visitor was just as likely to be immediately involved in a grave scientific discussion as in a casual friendly conversation or a free and easy exchange of ideas. I V Savel'ev was always ready to help those in need of his advice or assistance. Many owe him their success or career. He loved his work and was always eager to absorb new knowledge even if it came from the very young theorists with whom he had staffed his department ('to my misfortune' as he later liked to repeat in jest). The sole object of his hatred was the mediocrity into which he saw some researchers fall. Indeed, he was impatient with people reluctant to make the best of their potential for themselves and others.

Thousands of physicists are grateful to I V Savel'ev and call him their first teacher.

*N G Basov, V N Belyaev, V D Borman,
Yu A Bykovskii, V I Gervids, L P Gorbachev,
Yu M Kagan, V G Kirillov-Ugryumov,
N B Narozhnyi, B N Onykii, V D Popov,
A B Khmelinin, V D Shafranov*

¹In the past, the transliteration "Igor Vladimirovich Saveliev" was predominantly used in the English language literature instead of that adopted by this journal in accordance with the BSI/ANSI scheme. (Translator's note.)