

Professor Pavel Povinec – 65 years old

This Special Issue of the *Acta Physica Universitatis Comenianae* is devoted to Prof. RNDr. Pavel Povinec, DrSc., professor at the Department of Nuclear Physics and Biophysics, and Head of the Physics Section of the Faculty of Mathematics, Physics and Informatics of the Comenius University, who celebrated in February 2007 sixty five years. He contributed significantly to the development of physics at the University; he was 10 years Head of the Department of Nuclear Physics, Head of the Department of Nuclear Physics at the Institute of Physics and Biophysics, the first Vice-Dean and the Vice-Dean of the Faculty of Mathematics and Physics.

Prof. Povinec graduated at the Faculty of Natural Sciences of the Comenius University in 1965 as one of the first MSc in nuclear physics. In the same year he started to work at the Department of Nuclear Physics as an assistant with orientation on low radioactivity physics. He established at the Department a school of low radioactivities which has also been well known abroad. Together with his colleagues he developed several methods and detectors for low-level counting and spectrometry of environmental radionuclides. He established several new laboratories, e.g. a radiocarbon laboratory, a gamma-spectrometry laboratory, which have contributed to the environmental physics research. Newly developed gas detectors, called multielement proportional counters, have been successfully applied for tritium and radiocarbon measurements, and also for double beta-decay searches. Analyzing radiocarbon in old wines he established an existence of the 11-year solar cycle in the biosphere. Forty years long radiocarbon record for the Bratislava/Bohunice air is the second longest one in the world, which has been used for the evaluation of the impact of the Bohunice Nuclear Power Plant on the region, as well as for the study of the history of carbon dioxide emissions to the atmosphere. The developed gas counters, liquid scintillation methods and low-level gamma-ray spectrometers have been used for the radiation control of the Slovak environment after the Chernobyl accident. The obtained results were included in national and international reports evaluating the Chernobyl impact on the radiation doses of the population.

Except the environmental radioactivity studies he also established a research on radioactivity of extraterrestrial objects, such as lunar samples from the Apollo and Luna missions, and meteorites, with the aim to study variations of galactic and solar cosmic rays in space. The developed high-sensitive detectors and methods has also been applied in the investigations of rare nuclear and particle decays. Part of this work has been carried out in collaboration with the Joint Institute of Nuclear Research in Dubna, where he also initiated a project of the first Slovak cyclotron laboratory.

In 1990 he established with the European Centre of Nuclear Research (CERN) in Geneva collaboration in nuclear and particle physics. Together with several young colleagues he participated in the DELPHI experiment, and initialized our participation in the ATLAS experiment, which has recently been built at the LHC (Large Hadron Collider) complex at the CERN.

His international activities included many other institutions in USA (Fermilab, a project SDC), in Austria (DELPHI, a project AUSTRON), Italy (Milan double beta-decay experiments at Gran Sasso; Bologna University), Germany (Heidelberg), Switzerland (Bern University), and in many other universities.

Prof. Povinec has also contributed to the international visibility of the University by organizing international conferences. He organized 5 international conferences (including the 14th Europhysics

Conference on Nuclear Physics in 1990) and many national conferences (including the 8th Conference of Czechoslovak Physicists). This was especially important for establishing contacts with western universities during times when traveling abroad was very restricted. Several proceedings have been published from these conferences either as special issues of journals (e.g. Nuclear Instruments and Methods, Journal of Physics) or editorial books (e.g. World Scientific).

During 1993–2005 Prof. Povinec worked in the International Atomic Energy Agency's Marine Environment laboratory in Monaco, where he was leading the Radiometrics Laboratory for the investigation of marine radioactivity. He established there an underground counting laboratory and developed several new detection systems including in situ underwater gamma-ray spectrometers with satellite data transmission. He also organized there two international conferences and issued two editorial proceedings and three special issues of journals. During his stay in Monaco he continued with regular contacts with the Faculty, especially in the form of joint projects and publications. After coming back to the Faculty in September 2005 he has been continuing with his scientific activities in nuclear and environmental physics, concentrating on preparation of new research projects, writing joint papers and reports, and preparing new study programs for students.

An important part of the scientific life of Prof. Povinec has been his pedagogical activity. He contributed significantly to the development of the new study program (MSc) on Nuclear and Subnuclear Physics, where he also coordinated the development of new laboratory exercises, new lectures and seminars. The number of students (305) who graduated (MSc) during 1965–2006 years is making this program one of the most successful physics program at the Faculty. Prof. Povinec has been lecturing in MSc and PhD courses and he wrote several study books. He was supervisor of 22 MSc and 15 PhD students. During his stay in IAEA-MEL Monaco he cooperated in pedagogical activities with University of Nice, where he was supervisor of three PhD students.

Prof. Povinec has a rich publishing record. He is author and co-author of 15 chapters in international monographs, over 170 papers in international journals registered in Current Contents, and over 200 papers in international and national proceedings and reports, with over 1000 citations. He has been regularly invited as a key-note speaker at international conferences. He has been a Chief Editor of the journal *TheScientificWorld/Isotopes in the Environment* and a member of editorial boards of other three international journals. As an editor he prepared 16 special issues of international journals and proceedings oriented on the environmental radioactivity.

He has been a member of Scientific Councils of the Comenius University, Faculty of Natural Sciences, Mathematics-Physical Faculty, and presently Faculty of Mathematics, Physics and Informatics. He has also been a member of various national commissions, Chairman of the Slovak Section of Physics of the Union of Slovak Mathematicians and Physicists, member of the Board of the European Physical Society, and other international organizations (IUPAP, IUPAC, ICRM, EERO).

He has been awarded several international and national awards and medals (IAEA-Vienna, FAO-Rome, CEA-Paris, Czech and Slovak institutions and universities). He is a foreign member of the Russian Academy of Natural Sciences. He was a member of the IAEA team which in 2005 was awarded Nobel Prize for Peace.

In future years we wish Prof. Povinec strong health and many new exiting results in his scientific work.

Assoc. Prof. Karol Holý

Head of the Department of Nuclear Physics and Biophysics