

Assoc. Prof., RNDr. Stanislav Kozubek, DrSc.

Born on September 09, 1953 in Orlová, Czechoslovakia.

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Education: 1972, graduated in Nuclear Physics, Charles University in Prague.

Employment: 1978-1981; physicists, Radiotherapeutical department of Ostrava Medical Centre; 1981-1989; research scientist, Joint Institute for Nuclear Research, Dubna, Russia; 1989- present; senior scientist, head of the research department, Institute of Biophysics, Academy of Sciences of the Czech Republic, Brno, Czechoslovakia or Czech Republic; 1997- present; head of the Laboratory of Molecular Cytology and Cytometry, Institute of Biophysics, ASCR

2005- present; director of the Institute of Biophysics, ASCR, v.v.i.

Qualification: 1978; RNDr. Radiation biology, Charles University of Prague; 1986; CSc. (equivalent of PhD) Biophysics, Czechoslovak Academy of Sciences, Brno; thesis: "Mathematical models of the processes of radiation damage to tissues during fractionated irradiation"; 1986; DrSc. Radiation biology, Kyjev, Ukraine; thesis: "Regularities and mechanisms of the mutagenic effects of ionizing radiation with different linear energy transfer in prokaryotes". 2003; Associated Professor, Masaryk University, Brno

Language skills: Czech, English, German, Russian.

Scientific visits (long-term): 1990-1991 - research scientist, Deutsche Forschungsgemeinschaft für Luft- und Raumfahrt, Cologne; 1991 - visiting scientist, Lawrence Berkeley Laboratory, Berkeley, USA

Scientific boards and councils: member of the Scientific Council of Masaryk University, Scientific Council of the Faculty of Sciences of Masaryk University, member of the General Assembly of the Academy of Sciences

Overall research activities: fractionated irradiation of cell tissue (1979-1984), lethal and mutagenic effects of radiation in cells (1984-1995), architecture of chromosomes in the nucleus, epigenetics, cellular repair (1996-2009). Over 123 full-length papers in refereed international journals; these papers have been cited 1394 times. 6 international conferences organized by the Laboratory of Molecular Cytology and Cytometry. During the period 2006-2011: 37 full-length papers in refereed international journals; these papers have been cited more than 272 times, over 200 citations per year in 2010.

Scientific competence: Stanislav Kozubek (SK) has profound experience in the field of molecular cell biology, particularly in structural biology of the cell nucleus. The main achievements are published in publications 2-8 of the bibliography. These publications belong to the most cited papers in the field of cell biology produced in the CR (7 publications are involved among 100 most cited papers in the cell biology with the corresponding author from the CR). The investigations published in Blood (1997) showed proximity between genes a long time before the introduction of 3C techniques (this publication with 68 citations is the most cited paper in Blood among papers with the corresponding author from the CR). A comprehensive study on the 3D structure of the human genome published in Chromosoma (2002) used highly automated microscopy and showed basic regularities of the formation of the genome order in the randomness of the cell nucleus. This publication represents the second most cited contribution to Chromosoma in 2002.

Management competences: SK has established and has been leading the Department of Molecular Cytology and Cytometry (DMCC) since 1995. Recently, there are two groups in the department involved in the project. The group of the Structure and Function of the Cell Nucleus headed by Eva Bartova is one of the best teams in the CR working in the field of epigenetics. Eva Bartova contributed to about 100 czech publications in the field of epigenetics by 17 papers (the largest contribution). 3 papers of Eva Bartova belong to the 100 most cited publications of 2005, 2006 and 2008 with corresponding author from the CR. One of the most interesting recent results has been related to the chromatin structure and epigenome in human embryonic stem cells. The structure of the stem cells was strikingly different from differentiated cells. The second group of the Structure, Dynamics and Function of Chromatin headed by Martin Falk has been interested in structural and radiation biology. The papers on the induction of DSB in chromatin and investigations of the types of cell death after

fractionated irradiation belong to the best results published in the most prestigious journals of the field (e.g. in Radiation Research).

SK has established and maintained the first confocal facility in the Institute, based on LEICA DMRXA microscope that was equipped with the spinning disc, DMSTC motorized stage, Piezzo zmovement, MicroMax CCD camera, CSU-10 confocal unit (spinning disc), Ar-Kr laser, 2.5W with AOTF. The control software has been developed in collaboration with Faculty of Informatics, Masaryk University. The facility is still in operation and provides images of a very high quality.

SK has been the director of the Institute of Biophysics AS CR (IBP) since 2005. As can be easily seen from the WoS, during the period 2005-2015, the output of the Institute (measured in terms of impact factors or citations) has doubled. According to the evaluation of the performance of the academic institutes (50 organizations) in the period 2005-2009, the Institute of Biophysics ASCR belongs to the best ones. During this period several Core Facilities have been established, the most important one is the Laboratory of Cellular Biophysics equipped with flow-cytometry and sorting (Aria II) together with SP5 WLL confocal microscopy for living cells. Leica TSC SP-5 X is equipped with White Light Laser (470-670 nm); argon laser (488 nm) and 2 UV lasers (355 nm and 405 nm) for excitation in UV range and for the induction of DNA damage. Advanced software is used for data acquisition, 3D-analysis and FRAP (Fluorescence Recovery After Photobleaching) evaluation. Leica microscope represents a unique equipment for studies related to the biology of chromatin. Another important equipment is represented by the source of gamma radiation, Chisostat (60Co).

The Institute has extensive experience in managing and coordinating a range of research projects, including 5 Centers of Basic Research and 1 Center of Applied Research, EU FP projects, NIH, HHMI and ESF projects. In addition, support from the central administration of the Academy of Sciences will be provided as well. In the Academy, there are experienced administrators who facilitate various aspects of collaborative links between Academy of Sciences and Universities, including the negotiation of agreements for sharing of infrastructure or knowledge, IP protection, as well as the legal aspects of translating scientific discoveries to commercial products if required.

International and national collaboration: During the period of 5 years, we participated in a very prestigious international project: 6. FP EU, LSHG-CT-2003-503441, 3D Genome structure and function, 2004 - 2007 coordinated by Roel van Driel with participation of the best EU groups in the field (T. Cremer, Ch. Cremer, G. Cavalli, R. Eils, H. van der Voort). At present we are involved in the COST action "TD09/05 Epigenetics - Bench to Bedside". We have organized a number of international workshops on radiation biophysics, chromatin structure and epigenetics; the latest one on epigenetics was held in Brno.