



**Kassym Zhumadilov**  
*Professor of the International  
Department of Nuclear Physics, New  
Materials and Technologies*

**Contact information:**  
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**Professional experience:**

2016 - till present – The Head of the International Department of nuclear physics, new materials and technologies;  
2013 - associate professor of the International Department of nuclear physics, new materials and technologies;  
2011-associate Professor of radiation Biophysics laboratory, Research Institute for radiation biology and medicine, Hiroshima University;  
2008-2011 - researcher, associate Professor of radiation Biophysics laboratory, Research Institute for radiation biology and medicine, Hiroshima University;  
2000 - 2003-leading engineer of the Laboratory of Radioecology, Institute of Nuclear physics, National nuclear center, Kurchatov city;  
1995-2000-leading engineer of the Gamma spectrometry laboratory, Department of radioecology, Institute of Radiation safety and ecology of the National nuclear center, Kurchatov, Kazakhstan.

**Scientific degree, title, scientific school:**

PhD in Medical science;  
Tomsk Polytechnics University, Physics-Technical faculty, Tomsk, Russia;  
Institute for Radiation Safety and Ecology; National Nuclear Center, Kazakhstan; Institute of Nuclear Physics; National Nuclear Center;  
Research Institute for Radiation Biology and Medicine;  
Hiroshima University.

**Scientific interests:**

Nuclear physics, radiation physics, radiation ecology, influence of radiation to human body.

**Research Grants:**

The holder of the scientific state grant of the Ministry of Education and Science of Japan "EPR radiation survey of the population affected by the tests at the Semipalatinsk test site" (2010-2011). International scholarship of the Ministry of Education and Science of Japan (Mombukagaku) (PhD doctorate at the University of Hiroshima, Japan (2004-2008). 5284/ΓΦ4 «Estimation of external doses and internal doses of alpha radiation uranium mining and enterprises workers by tooth enamel EPR spectroscopy» (2015-2017). AP05135470 «Development and application of a complex of methods for doses estimating of workers in the uranium industry and the population exposed to radiation hazardous objects, using the phenomena of electron paramagnetic resonance and stimulated luminescence» (2018-2020).

**Delivered courses:** Mechanisms of interaction of radiation with light nuclei, Intermediate energies nuclear reactions, physics of energy processes, the interaction of radiation with heavy nuclei, nuclear power, use of radioactive isotopes, the Standard Model of elementary particles and their interactions, Applied Nuclear Physics and Radiation Safety, Physical Foundations of Applied Nuclear Physics, Physical principles of dosimetry, Radiation safety.

**Publications (selected):**

Ivannikov A.I., Zhumadilov K.Sh. et al. Formation of different types of paramagnetic centers in the alanine dosimeters exposed to alpha and gamma radiation - study by EPR spectroscopy. Radiation Measurements 137. Accepted Date: 17 September 2020. URL: <https://doi.org/10.1016/j.radmeas.2020.106467>  
V. Stepanenko, K. Zhumadilov et al. Internal doses in experimental mice and rats following exposure to neutron-activated 56MnO2 powder: results of an international, multicenter study. Radiation and Environmental Biophysics Volume 59, Issue 4, 1 November 2020, Pages 683-692. <https://doi.org/10.1007/s00411-020-00870-x>  
Fujimoto, N., Zhumadilov, K. et al. Low-Dose Radiation Exposure with (56)MnO(2) Powder Changes Gene Expressions in the Testes and the Prostate in Rats. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES. Int. J. Mol. Sci. Jul. 2020. Volume 21, Issue 14, Номер статьи 4989, pp 1-10. <https://doi.org/10.3390/ijms21144989>  
Khailov, A. Zhumadilov, K. et al. Machine learning for determination of the native background EPR signal amplitude in the teeth enamel. Radiation Measurements. Volume 137, September 2020, Номер статьи 106435 <https://doi.org/10.1016/j.radmeas.2020.106435>  
Holik M; Zhumadilov K. et al. Alpha calibration of the Timepix pixel detector exploiting energy information gained from a common electrode signal. JOURNAL OF INSTRUMENTATION. DOI: 10.1088/1748-0221/14/06/C06022. 9th International Workshop on Semiconductor Pixel Detectors for Particles and Imaging (PIXEL). Volume 14, Issue 6, 25 June 2019, Номер статьи C06022  
K. Zhumadilov et al. EPR Dosimetry study for population residing in the vicinity of fallout trace for nuclear test on 7 August 1962. Radiat. Prot. Dosim. ISSN: 0144-8420. 172 (1-3): 260-264, 2016.