Project name, IRN	**AP23488066** – Development of a method for reducing injuries based on the study of the physiological and psychophysiological qualities of workers in dangerous professions of ferroalloy production
Completion date	01.01.2024 - 31.12.2026
Project supervisor	Uakhitova, Bagdagul, PhD
Report	The project is aimed at studying the personal psychophysiological characteristics of workers in dangerous professions in the main workshops of the Aktobe Ferroalloy Plant of JSC TNK Kazchrome (hereinafter AFP) in order to reduce the overall level of injuries in these workshops. Based on the studied psychophysiological characteristics of workers in dangerous professions of the main workshops of the AFP, a psychophysiological method for reducing injuries will be developed and implemented. A methodology for the use of this method has also been developed and implemented. The project will focus on the practical applicability of research results to increase the level of industrial safety by reducing injuries in the smelting shops of the Aktobe Ferroalloy Plant by at least 9-10% of the long-term (15-20 years) average annual level. The main experiments will be studies to determine the physiological, psychological and psychophysiological characteristics of workers in dangerous professions in the main workshops of the AFP. Each employee is examined on special devices according to criteria such as attentiveness, reaction to unexpected changes in the situation, endurance, fatigue, etc. Studies of the psychological qualities of employees will be conducted using the method of Jan Strelau. Such characteristics of employees as biorhythms and intelligence data will also be determined using the IQ determination method.
Relevance	The aim of the project is to increase industrial safety in ferroalloy production by reducing injuries due to the personal (psychophysiological) qualities of workers in dangerous professions in the main workshops of the AFP. Ultimately, this is the achievement of the goal of a real reduction in the level of injuries in the hot shops of ferroalloy production by at least 9-10%.
Purpose	To synthesize functional materials based on perovskites and garnets doped with Ln2+, Ln3+ with further investigation of their spectroscopic characteristics, analysis of the nature of the glow centers and consideration of the possibility of their use for lighting and photovoltaic.
Expected results	• development of a theoretical concept for the establishment of workers in dangerous professions of metallurgical cluster enterprises prone to injury due to inconsistency of psychological and psychophysiological personality traits; • development and justification of a methodology for determining the main causes and factors affecting injuries in hazardous areas of a metallurgical enterprise; • establishment of a pattern for determining the level of injury according to the estimated parameters of the age and length of service of employees; • development of a methodology for psychological and psychophysiological testing of workers in dangerous professions predisposed to injury in terms of human factors; • as a result of studying statistical materials on occupational safety at the Aktobe Ferroalloy Plant in the period from 2012 to 2020, to determine their main injury rates and analyze their causes at the structural divisions of production.

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Publications in scientific publications	–