## conferenceseries.com

**International Conference on** 

## Anatomy and Physiology

August 11-13, 2016 Birmingham, UK

## Advancements in teaching in the field of human psychophysiology

Medenkov A A Moscow Aviation Institute, Russia

Modern development of aviation and cosmonautics presupposes training of specialists with skills of design reliable in using and operation aerospace technique and equipment. But this reliability is depending on the human factor, psycho-physiological characteristics and possibilities of the personnel. Hence the need to train future engineers and designers to account the psychophysiology of pilot and astronaut during the creation of aerospace engineering, technical means of training and assessment of readiness to flights. In this connection, there was developed and tested educational program of preparing students of aerospace university to account psycho-physiological characteristics and capabilities of the pilot and astronaut during design and using of aerospace technique. Foundation of this program consisted of experimental data of influence of not effective dividing of functions and automation of system "pilot-aircraft" during developing display and control systems, equipment, training and assessment of readiness and professional reliability of pilot or astronaut. Special attention was given to physiological indicators and them manifestations in assessment of functional reliability of pilots and cosmonauts during their professional activities. Information about dependencies, presented by system of multifactor mathematical models, was sufficient presentative for understanding the importance of, and the need to take into account psycho-physiological characteristics of the human in the design and operation of aerospace engineering. Disadvantages accounting of psycho-physiological characteristics and capabilities of human and his mistakes under influence of extreme factors must be considered as obligatory subject teaching of students in their training for design of the specimen for aerospace technique.

amedenkov@yandex.ru

## Technology of human psychophysiology teaching

Nesterovich T B Moscow Aviation Institute, Russia

Effectiveness of education depends on used technologies of teaching and control of learning and skills. In interest of study of psychophysiology technologies of forming the students' knowledge and skills, connected with accounting of physiological characteristics of human during design aircraft and technical means of training pilots were developed. These technologies are based on the integration of the learning process and practice. Study of each topic consists of a theoretical part and practical exercises. Students are involved in research and defining the values of psycho-physiological indices, and evaluating functional status of the operators and their activities. Algorithms of solving tasks consisted of mental and psychomotor actions and operations, implementing by means of psycho-physiological processes. These processes are discovery, identification, perception, anticipation, and decision-making in tasks of different logical complexity. For modeling the psychomotor activity in such tasks there were using processes of tracing, various locomotory acts and others actions. Repeated solution of tasks and locomotor activities were used. Importance of studying the mechanisms of regulation of psycho-physiological functions and status of the pilot under the influence of accelerations, hypoxia and others was demonstrated. Special attention was paid to integrating psycho-physiological indicators when assessing training programs of pilot on simulators. The proposed technology of integration of theory and practice of teaching students the psychophysiology was interrelated with the teaching of psychology, pedagogy, mathematical analysis, and other disciplines included in the curriculum of students Aerospace University.

nesterovicht@gmail.com