

## SCIENTIFIC WORK

Currently, the Department of "Mechanics and computer simulation" is headed by Doctor of Technical Sciences, Professor Mirziyod Mirsaidovich Mirsaidov. M. Mirsaidov graduated from the Tashkent Polytechnic Institute in 1971, with a degree in mechanical engineering, and in 1986 from Tashkent State University with a degree in mathematics. From 1973 to 1976, he was a postgraduate student at the Department of Mechanics of the Moscow Institute of Electronic Engineering, and in 1976, he defended his Ph.D. In 1986, he defended his doctoral thesis and got a scientific degree of Doctor of Technical Sciences at the Scientific Council at the Presidium of the Siberian Branch of the Academy of Sciences of the former USSR (Novosibirsk) in the same specialty. M. Mirsaidov received the title of professor in 1991. In 2004, the Department of Theoretical Mechanics merged with the Department of Structural Mechanics, and beginning from that year to the present the department is called Theoretical and Structural Mechanics. In 2017, Mirsaidov M.M. was elected an academician of the Academy of Sciences of the Republic of Uzbekistan. M. Mirsaidov is one of the famous scientists who has his own scientific school; he made a significant contribution to the theory and practice of such directions as "Mechanics of a Deformable Rigid Body" and "Dynamics of Structures". The scientific results obtained by M. Mirsaidov and his students in such areas as "Mechanics of a Deformable Rigid Body" and "Dynamics of hydro-technical structures", the developed theories and methods form the basis of many promising new scientific areas of great scientific importance in the science of mechanics. Under the scientific guidance of M. Mirsaidov, 17 Candidates of Sciences, 4 Doctors of Sciences were trained; they are currently working in various regions of our republic. M. Mirsaidov, together with his students, published 7 monographs, 17 textbooks and manuals, more than 400 articles and he is the author of more than 40 copyright certificates. More than 40 scientific articles based on the results of scientific work conducted at the department are in the Scopus database, published in English in foreign journals with a high impact factor and in conference proceedings (in the USA, Japan, Singapore, Italy, Austria, Vietnam, Brazil, Portugal, Croatia, Serbia, Russia, Ukraine). Three textbooks and teaching aids published were recognized as the "Best Textbook" and "Best Teaching Aid" in the country in different years. Six textbooks and teaching aids were translated into Kazakh in the Republic of Kazakhstan. Currently, the department is conducting scientific work financed by the Fund for Support of Seismology, Seismic Stability and Seismic Safety of Structures under the Cabinet of Ministers of the Republic of Uzbekistan, scheduled for 2022-2023 on topic No. 29/2022 "Seismic stability of earth dams taking into account unstable filtration propagating through the body of the dam", scientific work is also underway on a fundamental grant on topic No. FZ-20200929327 "Development of a theory and methodology for assessing the strength and reliability of earth dams, taking into account soil moisture content and non-linear filtration", funded by the Ministry of Innovative Development of the Republic of Uzbekistan, the grant is planned for 2021-2026. In 2021, the lecturers of the department Yarashev Zh. and Toshmatov E. defended their dissertations for the degree of Candidate of Sciences. Currently, 4 basic doctoral students of the department (Turajonov K., Khamidov S., Numonov A., Hazratqulov I.) are conducting scientific research preparing candidate dissertations.