“深地科学与工程”公开课
暨“矿大全球讲坛”系列报告会

报告专家一：Professor Anvar Chanyshev（俄罗斯工程院西伯利亚分院 N. A. Chinakal 矿业研究所教授、首席研究员）

报告专家二：Professor Ilgizar Abdulin（俄罗斯工程院西伯利亚分院 N. A. Chinakal 矿业研究所教授）

报告时间：2025 年 6 月 30 日—7 月 11 日，工作日上午 8:30-11:40

报告题目：详见公开课安排表

报告地点：深地工程智能建造与健康运维全国重点实验室 303 会议室

邀请人：马占国（教授/博导）、翟翠霞（教授/博导）

报告专家一简介：

Professor Anvar Chanyshev is a specialist in the field of solid mechanics, rock mechanics, as well as physical and mathematical sciences. Currently, he is a professor of geological and geophysical geomechanics department of Novosibirsk state university; he is also a senior researcher of laboratory of rock failure in institute of mining, Siberian Branch of the USSR Academy of Sciences/Russian Academy of Sciences. For initially anisotropic media with equal resistance to tension and compression, Chanyshev A.I. developed a new theory of plasticity, proposing novel plasticity criteria, a deformation theory of plasticity, and a theory of plastic flow. Prof. Chanyshev A.I. has published over 150 scientific papers. His main

research activities are: (1) development of mathematical models for the deformation and fracture of initially isotropic and anisotropic media, including those with equal and differing resistance to tension and compression; (2) development of methods and solutions for problems in solid mechanics.

报告专家二简介：

Professor Ilgizar Abdulin is a specialist in the field of solid mechanics and rock mechanics. Currently, he is a professor of laboratory of rock failure in institute of mining, Siberian Branch of the USSR Academy of Sciences/Russian Academy of Sciences. His basic activities are: development of mathematical models of deformation and destruction of initially isotropic and initially anisotropic media with the same and different resistance under tension and compression; development of methods and solutions for problems of solid mechanics. He is the author (and co-author) of more than 70 articles in scientific journals. He is an active executor of state assignments, Russian Foundation for Basic Research projects, and a Russian Science Foundation project.

中国矿业大学力学与土木工程学院

深地工程智能建造与健康运维全国重点实验室

江苏省应用力学中心

2025 年 6 月 27 日

公开课安排表

日期	时间	主讲人	报 告 题 目
6/30 周一	8:30-10:00	Anvar	Structural models of deformed media (rod, block models); Block model of a deformable solid, main attributes
	10:10-11:40	Abdulin	Description of a block model of a medium using periodic trigonometric functions
7/1 周二	8:30-10:00	Anvar	Block model of a rock with determination of passport characteristics (tensor basis, proper tensor basis); Examples of constructing passport dependencies for different rocks
	10:10-11:40	Abdulin	Resistance of the medium to deformation; Elastic resistance, plastic, resistance in case of rock failure; Soft and hard loading modes
7/2 周三	8:30-10:00	Anvar	Determination of natural stresses acting in a rock mass; Existing reserve, development paths; Experimental studies during stretching of sheet rubber
	10:10-11:40	Abdulin	Experimental studies of finding natural stresses on rocks; Technical solutions
7/3 周四	8:30-10:00	Anvar	Determining the stress-strain state of a rock mass around mine working with an arbitrary cross-section shape; Solving the problem of elasticity theory in the general case as applied to a cylindrical mine working
	10:10-11:40	Abdulin	Determining the elastic-plastic state of a rock mass around a cylindrical working with specified displacement on its boundary
7/4 周五	8:30-10:00	Anvar	Determining tangential displacements on the contour of a mine working based on measured distances between specified points
	10:10-11:40	Abdulin	Investigating the extreme deformation of a rock mass in the case of plane deformation (characteristics of a system of differential equations and their relationships
7/7 周一	8:30-10:00	Anvar	New formulations for solving boundary value problems of rock mechanics in the case of statics and dynamics
	10:10-11:40	Abdulin	Cauchy problem for equations of mathematical physics
7/8 周二	8:30-10:00	Anvar	The Cauchy problem in cases of plane deformation and plane stress state; Solving a problem for a half-plane with Cauchy conditions on the boundary
	10:10-11:40	Abdulin	Solution of the Cauchy problem for a half-plane in the case of an anisotropic body
7/9 周三	8:30-10:00	Anvar	Simple and complex loadings of deformable media beyond the elastic limit; Methods of describing the stress-strain state
	10:10-11:40	Abdulin	The problem of loss of stability of cylindrical workings beyond the elastic limit; Determination of the lower critical loads
7/10 周四	8:30-10:00	Anvar	The problem of the loss of stability of cylindrical pillars beyond the elastic limit; Determination of the lower critical loads
	10:10-11:40	Abdulin	Zonal disintegration of rocks around mine workings, methods of description
7/11 周五	8:30-10:00	Anvar	The circles of Pestilence; Determination of the positive direction of action of tangential stresses on an arbitrary site
	10:10-11:40	Abdulin	Oblique insertion of a tool in the form of a rigid wedge into a rock mass in the case of an isotropic and initially anisotropic material