# **DEPARTMENT OF GEOTECHNICS**

Department Head Tel.: + 421 2 59274 642,

Assoc. Prof. František Baliak, PhD + 421 2 59274 676
Fax: + 421 2 59274 642

E-mail: baliak@svf.stuba.sk

# I. STAFF

Professors			
Hulla Jozef, DSc	+421 2 59274 666	hulla@svf.stuba.sk	
Klepsatel František, PhD	+421 2 59274 671	klepsate@svf.stuba.sk	
Lukáč Michal, PhD	+421 2 59274 293	- 0	
Turček Peter, PhD	+421 2 59274 665	turcek@svf.stuba.sk	
<b>Associate Professors</b>		_	
Baliak František, PhD	+421 2 59274 284	baliak@svf.stuba.sk	
Bednárová Emília, PhD	+421 2 59274 675	bednarov@svf.stuba.sk	
Čabalová Darina, PhD	+421 2 59274 278	cabalova@svf.stuba.sk	
Kuzma Jozef, PhD	+421 2 59274 679	kuzma@svf.stuba.sk	
Malgot Jozef, PhD	+421 2 59274 624	malgot@svf.stuba.sk	
Ravinger Roman, PhD	+421 2 59274 667	ravinger@svf.stuba.sk	
Senior Lecturers			
Abrahám Peter	+421 2 59274 298	abraham@svf.stuba.sk	
Grambličková Danka, PhD	+421 2 59274 670	gram@svf.stuba.sk	
Hruštinec Ľuboš, PhD	+421 2 59274 678	hrustin@svf.stuba.sk	
Chabroňová Jana, PhD	+421 2 59274 669	chabron@svf.stuba.sk	
Kopecký Miloslav, PhD	+421 2 59274 277	kopecky@svf.stuba.sk	
Slávik Ivan, PhD	+421 2 59274 672	slavik@svf.stuba.sk	
Solčiansky Roman	+421 2 59274 298	solde@svf.stuba.sk	
Súľovská Monika	+421 2 59274 281	sulovska@svf.stuba.sk	
Štefanek Ján	+421 2 59274 272	stefanek@svf.stuba.sk	
Research Fellows			
Ledényiová Tatiana	+421 2 59274 669	ledenyio@svf.stuba.sk	
Masarovičová Mária, PhD	+421 2 59274 673	masarovm@svf.stuba.sk	
Ravinger Roman, PhD	+421 2 59274 667	ravinger@svf.stuba.sk	
Technical Staff			
Bibeňová Zuzana (secretary)	+421 2 59274 293	bibenova@svf.stuba.sk	
Konečný Karol	+421 2 59274 496	konecny@svf.stuba.sk	
Řikovská Oľga	+421 2 59274 676	rikovska@svf.stuba.sk	
Sucháneková Eva	+421 2 59274 287		
<b>Doctoral Students</b>			
Minárik Marián	+421 2 59274 412	minarik@svf.stuba.sk	
Tran Xuan Tho	+421 2 59274 412	txtho@yahoo.com	
Matejčeková Mirka	+421 2 59274 669	matejcekova@svf.stuba.sk	
Vantruba Michal	+421 2 59274 276	vantruba@svf.stuba.sk	

## II. EQUIPMENT

## **II.1** Teaching and Research Laboratories

- mechanical laboratory scales
- digital technical scales
- sieve series
- Cassagrande liquid limit apparatus
- dissectors
- odometers
- laboratory ovens
- motorised direct shear machines
- hand-operated laboratory vane tester
- triaxial apparatus
- motorised Proctor compaction machine

## **II.2** Special Measuring Instruments and Computers

For in-situ measurements:

- underground water flow by tracer methods,
- bearing capacity, stress and strain for special foundations.
- records with guide unit.
- 15x PC 586, 6x PC 486, 8x PC 386, with special software for stability, capacity and inflow porous media in connection with the ANSYS network.

## III. TEACHING

The Department of Geotechnics is an interdisciplinary department which teaches all sections of the Civil Engineering Faculty. The main subjects are geology, engineering geology, hydrogeology, soil mechanics, rock mechanics, foundations, underground structures, dams, and reservoirs. The system of eligible subjects makes special preparation possible for the solution of geotechnical problems in the environment, building, underground, transport, and water construction.

## **III.1** Graduate Study

Subject	Semester	Hours per Week	Lecturer
		Lectures Seminars	
Geology	1	2 - 2	Čabalová
Geology	1	2 - 2	Baliak
Geology	1	2 - 2	Kopecký
Geology and Geomorphology	1	2 - 2	Baliak
Soil Mechanics	4	3 - 2	Kuzma
Soil Mechanics	4	3 - 2	Kuzma
Soil Mechanics and Foundations	5	2 - 2	Hulla, Turček
Building Foundations	5	3 - 2	Turček
Building Foundations and Underground	5	3 - 2	Hulla

Structures Engineering Geology and Rock Mechanics Properties of Rocks and Soils	6 7	3 - 2 2 - 2	Klepsatel Malgot Klepsatel Kuzma
Water Reservoirs and Dams	7	3 - 2	Lukáč
Underground Constructions	7	2 - 2	Klepsatel
Plane and Deep Foundations	8	2 - 1	Hulla
Soil Construction	8	2 - 2	Hruštinec
Optional Subjects			
Engineering Geology and Rock Mechanics	8	2 - 2	Klepsatel
Recommended Subjects			
Dam Design	9	2 - 2	Lukáč, Bednárová
Foundation of Water Structures	9	2 - 2	Hulla
Selected Topics in Soil Mechanics	9	2 - 2	Kuzma
Complex Dam Projects	9	0 - 3	Bednárová
Diploma Seminar	9	0 - 3	Kuzma
Special Engineering Geology and Hydrogeology	9	2 - 2	Malgot
Soil Properties	9	2 - 2	Kuzma
Geomechanics	9	2 - 2	Kuzma
Optional Subjects			
Construction Ditches	9	2 - 2	Turček
Water Dams	9	2 - 2	Lukáč,
	-		Bednárová
Interaction of Water Structures and the Environment	9	0 - 3	Lukáč
Numerical Modelling in the Design of Water	9	2 - 2	Bednárová, Grambličková
Dams Geotechnical Reconstruction and Remedial Measures	9	2 - 2	Turček Klepsatel

## V. RESEARCH PROJECTS

- 1. Geotechnical Aspects of Increasing the Safety of Protective Embankments (M. Bednárová)
- 2. Hydrodynamic Processes in Boreholes and Related Heterogeneous Media in the Solution of Stability and Ecological Problems (J. Hulla)
- 3. Hydrodynamic and Interaction Processes in the Solution of Stability Problems of Geotechnical Structures (J. Hulla)
- 4. Analysis of Subsoil Deformations of Building Structures Depending on Their Mechanical Properties (J. Kuzma)
- 5. Dam Safety Analysis in Slovakia with Regard to Age and Significance (M. Lukáč)
- 6. Evaluation of the Effect of a Landslide on an Engineering Structure in Slovakia (J. Malgot)
- 7. Structural Collapse of Geometrials (M. Masarovičová)
- 8. Reliability of Geotechnical Structures (P.Turček)

## VI. COOPERATION

## VI.1. Cooperation in Slovakia

- 1. Department of Engineering Geology, UK, Bratislava
- 2. Department of Hydrogeology, UK, Bratislava
- 3. Department of Geotechnics, ZU, Žilina
- 4. Institute of Geotechnics, SAV, Košice
- 5. Department of Geotechnics, TU, Košice

## VI.2 International Cooperation

- 1. CTU Prague, Czech Republic
- 2. TU Ostrava, Czech Republic
- 3. TU Brno, Czech Republic
- 4. Czech Academy of Sciences, Czech Republic
- 5. UK Prague, Czech Republic
- 6. TU Budapest, Hungary
- 7. University of Alberta, Canada
- 8. University of Freiburg, Germany
- 9. TU Vienna, Austria
- 10. TU Graz, Austria
- 11. TU Innsbruck, Austria
- 12. ETH, Zürich, Switzerland
- 13. Mernöki Kamara, Budapest, Hungary
- 14. BPI Minsk, Belarus

## **VI.2.1** Visitors to the Department

- 1. Aldorf, J., TU Ostrava, Czech Republic, 2 days
- 2. Broža, J., CVUT Prague, Czech Republic, 2 days
- 3. Feda J., AVCR, UTAM Prague, Czech Republic, 2 days
- 4. Hrubešová, E., TU Ostrava, Czech Republic, 2 days
- 5. Patera, A., CVUT Prague, Czech Republic, 2 days
- 6. Vaníček, I., CVUT Prague, Czech Republic, 2 x 2 days
- 7. Vojtasík, K., TU Ostrava, Czech Republic, 2 days
- 8. Weiglová K., VUT Brno, Czech Republic, 2 days
- 9. Záleský, J., CVUT Prague, Czech Republic, 2 days

## VI.2.2 Visits of Staff Members and Postgraduate Students to Foreign Institutions

- 1. Kopecký, M.: Czech Republic, 2 days
- 2. Baliak, F.: Czech Republic, 2 x 2 days
- 3. Masarovičová, M.: Czech Republic, 1 x 2 days, 1 x 3 days

## VII. THESES

#### **VII.1.** Graduate Theses

No.	Student's Name	Title	Supervisor
1.	Bieliková. K.	Calculating Settlement of RU RAO Subsoil in Mochovce.	Kuzma, J.
2.	Cápay, P.	Selected Problems in Protecting the Stability of Embankments in the Danube Basin.	Bednárová, E.
3.	Fischer, R.	Analysis of the Arrangement of Profiles of Earth Dams with Reference to the Sealing and Drainage Elements.	Lukáč, M.
4.	Kezman, R.	Stability of Embankments Founded on Soft Subsoil.	Hulla, J.
5.	Manda, P.	Valuation of Engineering-Geological Exploration in Višnové from the Point of View of Tunnelling Technology.	Chabroňová, J.
6.	Marko, J.	Connection of AUPARK to Vienna Road Tunnel in Bratislava.	P. Kusý
7.	Matejčeková, M.	Comparison of Design Method for Nailed Slopes.	Turček, P.
8.	Struhalová, Z.	Design of Building Trench Sheeting System for JE V-1 Underground Garage in an Urban Area.	Slávik, I.
9.	Rozenberg, S.	Small Earth Dams in the Hron Basin.	Bednárová, E.
10.	Sumerák, A.	Utilization of Geotechnical Monitoring Know-How During Construction of the Trojane Highway Tunnel in Slovenia.	Klepsatel, F.
11. 12.	Šimon, D. Vantruba, M.	Stability of Slope on Podzamska Street in Nitra. Hydrodynamic Processes in Drill Holes and Their Surroundings.	Turček, P. Hulla, J.

## VIII. OTHER ACTIVITIES

## **VIII.1 Special Lectures**

[1] HRUŠTINEC, Ľ.: Interaction Between a Spread Foundation and Subsoil. Lecture, TU Brno, Czech Republic, 2003 (in Slovak)

## **VIII.2** Commercial Activities for Firms and Institutions

- 1. Special Structure Company, Ltd., Bratislava
- 2. Water Construction, Inc., Bratislava
- 3. SE, Inc., Nuclear Power Station, Jaslovské Bohunice
- 4. Slovak National Bank, Inc., Bratislava
- 5. VÚIS, Ltd., Bratislava
- 6. VÁHOSTAV, Inc., Žilina
- 7. Váh River Basin Authority, Piešťany
- 8. RENOS, Inc., Bratislava
- 9. KERAMOPROJEKT, Inc., Bratislava
- 10. SOLHYDRO, Ltd., Bratislava
- 11. Slovak Institute of Technical Normalisation, Bratislava
- 12. GEOS, Inc., Bratislava
- 13. Bodrog and Hornád River Basin Authority, Košice
- 14. ENVI-GEO, Ltd., Banská Bystrica
- 15. Hydrotechnology, Ltd., Bratislava
- 16. HYDROCONSULT, Inc., Bratislava
- 17. Slovak Geology Service, Bratislava

- 18. HIGRAPOŠ, Ltd., Pezinok
- 19. INGEO, Inc., Žilina
- 20. INGEO IGHP, Ltd., Žilina
- 21. HYDRO G.E.R., Ltd., Banská Bystrica
- 22. SE, Inc., Electric Generating Station, Zemianske Kostol'any
- 23. SE, Inc., Nuclear Power Station, Mochovce
- 24. STAVOSPOL, Ltd., Brno
- 25. DVORAK Geotechnics, Ltd., Bratislava
- 26. DOPRASTAV, Inc., Bratislava
- 27. TERRAPROJEKT, Inc., Bratislava
- 28. SVP, Inc., Banská Bystrica, Banská Štiavnica, Košice
- 29. Hydraulic Power Plant, Inc., Trenčín

## IX. PUBLICATIONS

#### IX.1 Journals

## **Scientific Papers in Slovak Journals:**

- [1] CHABROŇOVÁ, J. KELEŠI, J.: Reflections on Tunnelling Technology. Stavba, Vol. 6, 2003, No. 4, pp. 50 53 (in Slovak)
- [2] HULLA, J.: Seepage Problems of the Orava Dam. Vodohospodársky spravodajca, Vol. 46, 2003, No. 7, pp. 4 6 (in Slovak)
- [3] HULLA, J.: Deep Foundation Excavations in an Urban Area. Stavebnícka ročenka, JAGA 2003, pp. 125 130 (in Slovak)
- [4] HULLA, J.: Protection of Buildings during Floods. Stavebnícka ročenka, JAGA 2003, pp. 137 142 (in Slovak)
- [5] KELEŠI, J. CHABROŇOVÁ, J.: Višňové Exploration Tunnel is a Breakthrough. Projekt a stavba, Vol. 5, 2003, No. 4, pp. 16 18 (in Slovak)
- [6] LUKÁČ, M. BALÁŽ, A.: The Originality of the Palčamnska Maša Dobšina Basin Systems from the Point of View of 50 Years of Operations. Vodohospodársky spravodajca, Vol. 46, 2003, No. 10, pp. 4 7 (in Slovak)
- [7] LUKÁČ, M. BEDNÁROVÁ, E. GRAMBLIČKOVÁ, D.: Historical Importance of the Banska Štiavnica Basins in the Context of the Construction of Basins and Dams in Slovakia, Europe and the World. Spravodaj, Vol. 43, 2003, Nos. 2 4, pp. 136-140 (in Slovak)
- [8] LUKÁČ, M.: Half a Century of Operations of the Orava Dam Effects and Impacts. Vodohospodársky spravodajca, Vol. 46, 2003, No. 5, pp. 10 16 (in Slovak)
- [9] RAVINGER, R.: Construction in Urban Areas with Respect to Geotechnical Factors. Stavba, Vol. 6, 2003, No. 12, pp. 22 26 (in Slovak)
- [10] RAVINGER, R.: Choice of Machines for Special Foundation Engineering. Stavebnícka ročenka, JAGA 2003, pp. 40 46 (in Slovak)
- [11] TRAN X. Th. NGUYEN M. T.: Negative Skin Friction on Concrete Piles in Soft Subsoil on the Basis of the Shifting Rate of Piles and the Settlement Rate of the Surrounding Soils. Slovak Journal of Civil Engineering, Vol. 11, 2003 (in English)

- [12] TRAN X. Th: Stability Problems of an Earthfill Dam. Slovak Journal of Civil Engineering, Vol. 11, 2003 (in English)
- [13] TURČEK, P.: Civic Construction Foundations at Present. ASB, Vol. 10, 2003, No.1, pp. 98 99 (in Slovak)
- [14] TURČEK, P.: Principles of Design of Reinforced Retaining Walls. Inžinierske stavby, Vol. 51, 2003, No. 1, 8 pp. (in Slovak)

## **Scientific Papers Abroad (Other Journals):**

## **Contributions to Proceedings in Slovak:**

- [1] BALIAK, F. MALGOT, J. KOPECKÝ, M.: Effect of Landslides on Communication Structures. In: Proceedings of 11th International Conference. Žilina 2003, pp. 11 14 (in Slovak)
- [2] BALIAK, F. MALGOT, J.: Non-Traditional Methods of Engineering-Geological Investigations. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 59-66 (in Slovak)
- [3] BEDNÁROVÁ, E. GRAMBLIČKOVÁ, D.: Effect of Geotechnical Aspects on the Safety of Embankments. In: Proceedings of Conference (with international participation) on Water Structure Safety and Flood Protection. Bratislava 2003, pp. 145 150 (in Slovak)
- [4] BEDNÁROVÁ, E. GRAMBLIČKOVÁ, D.: Selected Problems Concerning the Efficiency of Grout Curtains. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 358 363 (in Slovak)
- [5] BEDNÁROVÁ, E. POLOMSKÁ, Ľ.: Effect of Time on the Efficiency of Grout Curtains in the Orava Dam Subsoil. In: Proceedings of Conference on 50 Years of the Orava Dam and Power Station Operations. Bratislava 2003, pp. 135 144 (in Slovak)
- [6] BEDNÁROVÁ, E.: Water Reservoirs, Dams and Embankments as a Part of Flood Protection. In: Proceedings of Water Days Conference. Poprad 2003, pp. 6 11 (in Slovak)
- [7] FEDA, J. MASAROVIČOVÁ, M: Observational Methods and the Geogrid Effect Two Comments. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 207 210 (in Slovak)
- [8] GRAMBLIČKOVÁ, D. BEDNÁROVÁ, E.: Safety of Protective Embankments. In: Proceedings of 8th International Symposium on Water Management and Hydraulic Engineering. Podbanské 2003, pp. 93 99 (in Slovak)
- [9] GRAMBLIČKOVÁ, D. BEDNÁROVÁ, E. BABEČKA, J.: Some Problems in the Design of Treatment for Flood Embankments. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 248 253 (in Slovak)
- [10] HRUŠTINEC, Ľ. KUZMA, J.: The Stiffness Effect of a Spread Foundation on Contact Stress Distributions. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 211 216 (in Slovak)
- [11] HULLA, J. SLAŠŤAN, P.: Additional Sealing of Dilatation and Working Joints with Polyurethane Resins. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 352 357 (in Slovak)

- [12] HULLA, J. SÚĽOVSKÁ, M. ALDORF, J. RAPANTOVÁ, N.: Aging of the Observation Boreholes for Viewing Groundwater. In: Proceedings of Conference on Hydrology at the Beginning of the 21st Century Vision and Reality. Bratislava 2003, pp. 539 552 (in Slovak)
- [13] HULLA, J.: Failures in Civil Engineering Structures After Flooding Caused by Changes in the Subsoil. In: Proceedings of Conference on Building Structure Disturbances. Bratislava 2003, pp. 19 22 (in Slovak)
- [14] HULLA, J.: Seepage Problems of the Orava Dam. In: Proceedings of Conference on 50 Years of the Orava Dam and Power Station Operations. Bratislava 2003, pp. 125-133 (in Slovak)
- [15] HULLA, J.: Seepage Problems of the Liptovská Mara Dam. In: Proceedings of 8th International Symposium on Water Management and Hydraulic Engineering. Podbanské 2003, pp. 111 118 (in Slovak)
- [16] HULLA, J.: Civil Engineering Structures After Destructive Earthquakes. In: Proceedings of the Conference on Building Structure Disturbances. Bratislava 2003, pp. 80 83 (in Slovak)
- [17] CHABROŇOVÁ, J. KELEŠI, J.: Viewing the Excavation of the Višňové Tunnel Using TBM. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 394 400 (in Slovak)
- [18] KOPECKÝ, M.: Engineering-Geological Investigation and Remedial Measures After the Hriňová Landslide. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 79 82 (in Slovak)
- [19] KUZMA, J. HRUŠTINEC, Ľ.: Effect of the Boundary Conditions on the Solution of a Contact Task of a Spread Foundation's Interaction with Subsoil. In: Proceedings of 2d International Conference on New Trends in Statics and Dynamics of Buildings. Slovak. Bratislava 2003, pp. 211 216 (in Slovak)
- [20] LEDÉNYIOVÁ, T. HAMERLIKOVÁ, A.: Sewerage Reconstruction under Obchodna Street. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 388 393 (in Slovak)
- [21] LUKÁČ, M. sr. LUKÁČ, M. jr.: Factors Affecting Change in the Design of Parameters of Hydraulic Structures in Slovakia. In: Proceedings of 8th International Symposium on Water Management and Hydraulic Engineering. Podbanské 2003, pp. 235-245 (in Slovak)
- [22] LUKÁČ, M. sr. Miščík, M.: New Materials, Structures and Technologies in the Constructions of Dams in Slovakia. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 242 247 (in Slovak)
- [23] LUKÁČ, M.: Dam Safety Factors and Embankments of Basin Planar Areas during Floods. In: Proceedings of International Slovak-Czech-Swiss Conference: Life Safe World Safe. Bratislava 2003, pp. 140 144 (in Slovak)
- [24] LUKÁČ, M.: Through Possibility of Increasing Protected Territory below Basins during Floods Water-Management. In: Proceedings of International Slovak-Czech-Swiss Conference: Safe of Life Safe of World. Bratislava 2003, pp. 60 66 (in Slovak)
- [25] MALGOT, J. BALIAK, F.: The Failures of the Buildings Caused by Landslides. In: Proceedings of Conference on Static Construction Problems of Structures. Tatranská Lomnica 2003, pp. 23-28 (in Slovak)

- [26] MASAROVIČOVÁ, M. SLÁVIK, I. JESENÁK, J. BREZNICKÝ, J.: Innovative Rescue of a Desludging Site. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 264 269 (in Slovak)
- [27] MASAROVIČOVÁ, M. SLÁVIK, I. JESENÁK, J.: Geotechnical Characteristics of Desludging Site Geomaterials. In: Proceedings of International TOP 2003 Conference on Environmental Protection Techniques Focused on Waste Utilisation. Častá Papiernička, pp. 79-84 (in Slovak)
- [28] RAVINGER, R. ŠTEFANEK, J.: Optimalization of Incorporating Elements and Slope Forms According to Geotechnical Calculations. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 273 278 (in Slovak)
- [29] RAVINGER, R.: Geosynthetic Applications in Traffic Engineering Construction. In: Proceedings of Conference on Geosynthetics in Traffic Engineering. Žilina 2003, pp. 44 50 (in Slovak)
- [30] RAVINGER, R.: Geotechnical Factors Threatening Buildings in the Construction of Urban Areas. In: Proceedings of 5th Conference on Static-Structural and Building Physics Problems of Building Structures. Košice 2003, pp. 17 22 (in Slovak)
- [31] TRAN, X. Th. ŠTEFANEK, J. SÚĽOVSKÁ, M.: Numerical Analysis of Seepage Through an Earthfill Dam. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 279 284 (in English)
- [32] TRAN X. Th.: Study of Negative Skin Friction on Single Concrete Piles in Soft Soils. In: Proceedings of 2d International Conference on New Trends in the Statics and Dynamics of Buildings. Slovak. Bratislava 2003, pp. 41 46 (in English)
- [33] TURČEK, P. MATEJČEKOVÁ, M.: New Design Methods for Soil Nailing. In: Proceedings of 6th Slovak Geotechnical Conference on New Methods in Geotechnical Engineering. Bratislava 2003, pp. 236 241 (in Slovak)
- [34] TURČEK, P.: Eurocode 7 Geotechnical Design. In: Proceedings of Conference on Actual and Prepared Standards in Engineering-Geology and Geotechnical Practices. Bratislava 2003, pp. 23 27 (in Slovak)
- [35] TURČEK, P.: New Trends in the Foundations of Hall Constructions. In: Proceedings of Conference on Static Hall Constructions. Piešťany 2003, pp. 7 12 (in Slovak)
- [36] TURČEK, P.: Geotechnical Failures Consequences of Changing Subsoil. In: Proceedings of 5th Conference on Static-Structural and Building Physics Problems of Building Structures. Košice 2003, pp. 11 16 (in Slovak)
- [37] TURČEK, P.: Do the TENSAR Company's Programmes for Reinforced Walls Correspond to Slovak Standards? In: Proceedings of Conference on Geosynthetics in Traffic Engineering. Žilina 2003, 6 pp. (in Slovak)

## **Contributions to Proceedings Abroad:**

- [1] BALIAK, F. MALGOT, J.: Research on the Failure of a Rock Massif Using Geological and Photogrammetrical Methods. In: Proceedings of Conference on Geotechnical Field Methods. Ústí nad Labem 2003, pp. 50 56 (in Slovak)
- [2] BALIAK, F. MALGOT, J.: Landslides on River Banks in Slovakia. In: Proceedings of 3d Conference on Water Management. Brno 2003, pp. 272 279 (in Slovak).

- [3] BEDNÁROVÁ, E. GRAMBLIČKOVÁ, D.: Selected Problems Concerning the Efficiency of Grout Curtains in the Danube Basin. In: Proceedings of Conference on Geotechnical Field Methods. Ústí nad Labem 2003, pp. 87 92 (in Slovak)
- [4] BEDNÁROVÁ, E.: Sources of Errors in the Verification of the Efficiency of Grout Curtains. In: Proceedings of 3d Conference on Water Management. Brno 2003, pp. 23 32 (in Slovak)
- [5] GRAMBLIČKOVÁ, D. BEDNÁROVÁ, E.: Lessons Learned from the Application of the SEFTRANS Programme on the Optimization of Reconstruction Measures for Protective Embankments. In: Proceedings of Conference on Geotechnical Field Methods. Ústí nad Labem 2003, pp. 93 98 (in Slovak)
- [6] HRUŠTINEC, Ľ. KUZMA, J.: Effect of Some Factors on the Interaction of Spread Foundations with Subsoil. In: Proceedings of International Foundations 2003 Conference. Brno 2003, pp. 63 68 (in Slovak)
- [7] HULLA, J. et al: Geotechnical Problems of the Danube, Morava and Vah Embankments. In: Proceedings of 13th European Conference on Soil Mechanics and Geotechnical Engineering. Prague 2003, pp. 119 124 (in English)
- [8] HULLA, J. et al: Investigation and Remediation of Leaking Areas in Large Navigation Locks. In: Proceedings of GTMM Conference. Karslruhe 2003, pp. 205 210 (in English)
- [9] HULLA, J. CHLAPÍK, D. HOK, R.: Monitoring the Performance of Grout Curtains in Slovak Flysh and Volcanic Rocks. In: Proceedings of Conference on Grouting and Ground Treatments. New Orleans 2003, pp. 1417 1426 (in English)
- [10] HULLA, J. SLAŠŤAN, P. JANÍČEK, D.: Sealing Dilatation Joints with Polyurethane Resins. In: Proceedings of Conference on Grouting and Ground Treatments. New Orleans 2003, pp.1254-1265 (in English)
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