

<b>DEPARTMENT OF BUILDING SERVICES</b>
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**Technical Staff**

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## II. EQUIPMENT

### II.1 Teaching and Research Laboratories

Laboratory - Trnávka  
Applied Precision Ltd., Bratislava  
Imos - Asec, Ltd., Bratislava

### II.2 Special Measuring Instruments and Computers

Bruel & Kjer Thermal Comfort Analyzer  
Anemometer  
Izomet 104  
Globe Meter  
Measuring Unit

#### Computer room:

PC computers: DTK 486, Escom 368, Eurocomp-Pentium, Pentium 200  
Plotter, printer

## III. TEACHING

### III.1 Graduate Study

Subject	Semester	Hours Per Week		Lecturer
		Lectures	Seminars	
Technical Equipment of Buildings	4	2	2	Peráčková, Tonhauzer
Technical Equipment of Buildings II	5	2	1	Petráš, Lulkovičová
Technical Equipment of Buildings III	6	2	1	Székyová, Boďo
Internal Water and Gas Piping	7	3	2	Valášek, Tonhauzer
Internal Drainage	7	2	1	Valášek
Ventilation	7	2	2	Székyová
Heating I	7	2	2	Lulkovičová
Heating II	8	2	2	Petráš
Design IV	7	0	3	Peráčková
Design V	8	0	4	Kalús
Design VI	9	0	4	Székyová
Design VII	10	0	4	Lulkovičová
Air Conditioning	8	2	2	Székyová
Computer Design Systems	8	0	3	Ihradský
Measuring and Control I	8	2	2	Koudelková
Measuring and Control II	9	2	2	Ehrenwald,
Energy Supply of Buildings	8	2	1	Takács

Excursions	9			Takács
Building Control Systems	10	2	2	Ehrenwald
Special Seminar	9, 10	0	2	Peráčková, Kalús, Székyová
Heating Audit	10	1	3	Petráš
Technical Equipment of Buildings	3	1	1	Peráčková, Valášek
Heating Systems	9	2	2	Petráš
Industrial Installations	9	2	2	Hrbatý
Renewable Energy in Technical Equipment of Buildings	9	2	2	Lulkovičová, Takács
Ventilation & Air Conditioning Systems I	9	2	2	Leimberger
Industrial Air Conditioning Systems II	9	2	2	Székyová
Sanitation Audit	10	1	3	Peráčková
Ventilation Audit	10	1	3	Leimberger
Combustion Technology	10	2	1	Lulkovičová
Fire Engineering – Technical Equipment of Buildings	9	2	2	Jánošková
Diploma Seminar	10			
Internships				Peráčková, Kalús, Székyová
Technology Equipment	9	2	2	Tonhauzer
Sanitary-Technical Equipment	10	2	1	Valášek
Operation of Air Conditioning Systems	10	2	1	Székyová

#### IV. RESEARCH TARGETS

- measuring and control systems in heating
- indoor climate and indoor air quality of buildings
- modernization of sanitation and ventilation
- rational use of fuels and energy
- ecological cities

#### V. RESEARCH PROJECTS

1. Economizing on Energy Consumption and the Thermal State of Heated Interiors via the Application of Measuring, Control and Automation Techniques (3 years, Prof. Petráš)
2. The Effect of Control Systems on the Quality of an Indoor Environment and Increasing the Efficiency of the Technical Equipment of Buildings (3 years, Prof. Valášek)

##### International Projects

1. Low Energy Systems in Relation to Renewable Energy Sources (Prof. Petráš, et al.)
2. INTUSER – Information Network on the Technology of Utilization and Sustainability of Energy Resources (Prof. Petráš, et al)
3. Energy Audit of Buildings – Updating Methodologies and Tools (Prof. Petráš, et al.)

4. ECOCITY - Urban Development Towards Appropriate Structures for Sustainable Transport (Prof. Petráš - the leading representative of the Department of Building Services)
5. SOCRATES – Student Mobility - PH Pinkafeld (Austria), DTU Lyngby (Denmark)
6. SOCRATES – Cooperation with WÄRMEPUMPEN (Heat Pumps) Intensive Program. Pinkafeld
7. Austria - Slovakia - Dissemination of Cooperation in the Field of Education and Legislation (Assoc. Prof. Lulkovičová, 2004)

## **VI. COOPERATION**

### **VI.1 Cooperation in Slovakia**

1. VVÚPS-NOVA, Bratislava
2. Institute of Construction and Architecture, Slovak Academy of Science, Bratislava
3. University of Technology, Košice
4. Geberit-Slovakia, Bratislava
5. TMS Montys, Ltd., Bratislava
6. REHAU, Ltd., Bratislava
7. Slovak Institute of Technical Normalization, Bratislava
8. Technical Testing Institute, Piešťany
9. Ministry of Town Planning and Construction of the Slovak Republic, Bratislava
10. Technical University, Žilina
11. The Ministry of the Environment of the Slovak Republic
12. Slovgoterm Bratislava
13. Slovak Health Spa - Piešťany
14. Slovak Metrology Institute Bratislava
15. Tabak Bratislava
16. SEA - Slovak Energy Agency
17. SSTEP - Slovak Society of Environmental Techniques
18. DEVI, Ltd. Bratislava
19. Witzemann Slovakia, Ltd., Bratislava
20. Herz, Ltd., Bratislava
21. Town Planning Department, Trnava
22. Atcon System, Ltd., Bratislava

### **VI.2 International Cooperation**

1. ENSI - Energy Saving International AS, Oslo, Norway
2. Hansa, AG, Burglengenfeld, Germany
3. Geberit, AG, Rottenbrunn, Germany
4. GAS, Ltd. Prague, Czech Republic
5. ČVÚT – Civil Engineering Faculty, Prague, Czech Republic
6. VÚT, Brno, Czech Republic
7. Deutsche Institute für Bautechnik, Berlin, Germany
8. Czech Association of Civil Engineers, Prague, Czech Republic
9. ASHRAE – Atlanta, Georgia, USA
10. REHVA – Brussels, Belgium
11. Fachhochschule Pinkafeld, Austria

12. The Danish Technical University – International Center for the Indoor Environment and Energy, Lyngby, Denmark
13. Technical University, Budapest, Hungary
14. Hansa, Ltd., Kralovice, Czech Republic
15. LDM, Ltd., Česká Třebová, Czech Republic
16. VOGEL and Noot, Ltd., Austria
17. JIKA Laufen, Znojmo, Czech Republic
18. FH Pinkafeld, Austria

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

1. Prof. Papež, K.; The Czech Technical University of Prague, Czech Republic
2. Assoc. Prof. Hirš, J., K.; The Czech Technical University of Prague, Czech Republic
3. Kabele, The Czech Technical University of Prague, Czech Republic
4. Dipl. Ing. Trond Dahlsveen, Energy Saving International, Ltd., Oslo, Norway
5. Assoc. Prof. Kuba, J., Mining University, the Faculty of Civil Engineering, Ostrava, Czech Republic
6. Prof. Sundel, J.; Prof. Weschler, Ch.; Assoc.Prof. Wargocki, P. International Center for Indoor Environments and Energy, DTU, Lyngby, Denmark
7. Dipl. Ing. Zaphel, W.; Draxler, E.; Muhl, M.; Geyer, J.; Seerig, A.; Urank, D.Krottil, R.: Fachhochschule Pinkafeld, Austria (Austrian - Slovak Action)
8. Mr. Astleintner, K.; VOGEL and NOOT, Wartberg, Austria
9. Stach, K.; Kreuzer, G.; Potzinger, J.; Schwarz, A.; Grausenburger, R.; Lindmeier, I.: FH Pinkafeld, Austria (1 semester study of Austrian students in our dept./ERASMUS)

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

1. Petráš, D.: ASHRAE Meeting 2004 – USA
2. Petráš, D.: International Conference on Air Conditioning and Ventilation 2004, Prague, Czech Republic
3. Leimberger, P.: International Conference on Air Conditioning and Ventilation 2004, Prague, Czech Republic
4. Petráš, D.: ICIEE-DTU, Lyngby, Denmark
5. Petráš, D.: VVS Seminar, Stockholm, Sweden
6. Petráš, D.: VZ-SWKI, Bern, Switzerland
7. Petráš, D.: "Climamed", Lisbon, Portugal
8. Petráš, D.: SHK Seminar, Brno, Czech Republic
9. Petráš, D.: EVAC conference, Istanbul, Turkey
10. Petráš, D.: EU membership meeting, Eisenstadt, Austria
11. Petráš, D.; Repka, N.; Boldiš, T.; Matej, P.: International Conference on Energy for Buildings, Vilnius, Lithuania
12. Petráš, D.: E-NOVA Congress, Pinkafeld, Austria
13. Petráš, D.: Baufakultäten TAG, Vienna, Austria
14. Petráš, D.: KIGH Congress, Belgrade, Serbia & Montenegro
15. Petráš, D.: ETE Discussion Forum, Budapest, Hungary
16. Petráš, D.: 16th VZ - CENT/TC - 228, Berlin, Germany
17. Petráš, D.: WEC Conference, Shanghai, China
18. Petráš, D.: committee member of a Ph.D. work defence, Prague, Czech Republic
19. Lulkovičová, O.; Petráš, D.; Jánošková, T.; Matej, P.; Babiak, J. – Fachhochschul, Pinkafeld, Austria

20. Lulkovičová, O.; Koudelková, D.; Takács, J.; Feketeová, M.; Kurčová, M.; Šabíková, J.: Vogel and Noot, Hungary
21. Székyová, M.; Ihradský, J.; Mikuška, P.: Technical Exhibition, Hannover, Germany
22. Lulkovičová, O.; Petráš, D.: ČVÚT – Civil Engineering Faculty, Prague, Czech Republic
23. Lulkovičová, O.; Petráš, D.: VÚT - Civil Engineering Faculty, Brno, Czech Republic
24. Valášek, J.; Peráčková, J.; Leimberger, P., Székyová, M.: Helsinki, Finland
25. Šabíková, J.: International Center for Indoor Environments and Energy, DTU, Lyngby, Denmark (SOCRATES)
26. Bekö, G.: International Center for Indoor Environments and Energy, DTU, Lyngby, Denmark (SOCRATES for Ph.D. students)
27. Šabíková, J.: EcoCity Project (EU 5FW) workshop, Umbertide, Italy

## VII. THESES

### VII.1 Graduate Theses

No.	Student's Name	Title	Supervisor
1.	Hrnčárová	Air Conditioning in an Operating Room	Székyová
2.	Janček	Energy Balance in a Kitchen Technology	Jánošková
3.	Lagin	Air Conditioning in a Restaurant Kitchen	Boďo
4.	Lovásová	Final Project for Sanitary Installations in a 14 - Storey Semifunctional Building	Valášek
5.	Babiak	Design of Low-Temperature Heating with Active Ceiling Constructions for a Shopping Centre	Petráš
6.	Hornák	Design of Low-Temperature Wall Heating for a Sanatorium in Piešťany	Takács
7.	Januška	Hydronic Balance for Internal Piping for a Warm Water Heating System in a Multistorey Dwelling House	Koudelková
8.	Kortánová	Design of a Solar Energy System with Year - Round Operation in a Hospital	Lulkovičová
9.	Krajčovič	Design of Heating with Mounted Radiant Panels for Billa Supermarket in Skalica	Kalús
10.	Krivosudská	Hydronic Control of a System in a Multistorey Hotel	Petráš
11.	Matejovič	Design of a Solar Energy System with Year - Round Operation in a Dwelling House	Peráčková
12.	Ralbovská	Renovation of a Heating System for a Church in Záhorská Bystrica	Kalús
13.	Sladkay	Design of a Low-Pressure Boiler Plant Room for Hypernova Supermarket - Gas Base	Koudelková
14.	Volár	Design of a Low-Pressure Boiler House for a Chalet - Gas Base	Lulkovičová
15.	Székely	Design of a Heat Delivery Plant for an Office Building at Slovnaft - Steam/Steam Base	Koudelková
16.	Stankievič	Design of a Warm Water Floor Heating System in a Multifunctional Building	Koudelková
17.	Tamašovič	Final Project for a Warm Water Heating System	Takács

18.	Tvarog	Design of a Low-Pressure Boiler Plant Room with Low-Temperature Boilers - 860 kW, Gas Base	Lulkovičová
19.	Zaťko, P.	Decentralized Gas Zone Heating for a Factory in Nitra	Kalús
20.	Zaťko, I.	Combined Central Heating/ Ventilation with Mounted Radiant Panels and Air Conditioning Wall Units for a Factory in Malacky	Kalús
21.	Janík	A Recreational Resort in Krokava	Takács
22.	Cedzo	Ventilation and Air Conditioning in Auto Showroom with a Service Station	Székyová
23.	Čalfa	Ventilation and Air Conditioning of a Canteen with a Catering Facility in a Holiday Resort	Székyová
24.	Dvorský	Ventilation and Air Conditioning of the Avion Shopping Park in Bratislava	Boďo
25.	Slamka	Ventilation and Air Conditioning of a Catering Facility in a Multifunctional Building	Székyová
26.	Kotlárík	Warm-Air Heating, Ventilation, and Air Conditioning at a Hall in Fytosanitary Centre	Székyová
27.	Kovář	Ventilation of Chrysler Car Showroom and a Service Station in Banská Bystrica	Boďo
28.	Šebeš	Ventilation and Air Conditioning of Doprastav Convention Centre in Bratislava	Boďo
29.	Antal	Technical Equipment for Rainwater Use in a Building	Peráčková
30.	Červenák	Design of a Water Sprinkler System in a Shopping Centre	Jánošková
31.	Duda	Final Project for Sanitary Installations in an Office Building	Peráčková
32.	Dopiráková	Final Project for Internal and External Drainage in an Office and Educational Centre of Technical Testing Centres	Tonhauzer
33.	Kovács	Final Project for Separate Drainage in a Multifunctional Building	Peráčková
34.	Kuňák	Final Project for Selected Parts of a Sanitary Installation in a Multifunctional Building	Peráčková
35.	Mikuláš	An Insurance Company Office Building	Peráčková
36.	Balázik	Final Project for Internal Drainage in a Dwelling House	Peráčková
37.	Brna	Technical Input in the Design of Gas Piping for a House	Tonhauzer
38.	Kliniec	Warm Water Distribution in a Dwelling House	Jánošková

39.	Mišiak	Technical Input for an Industrial Gas Piping Design - Steel Pipe Base	Tonhauzer
40.	Murcková	Final Project for Sanitary Installations in a Shopping - Automobile Service Centre, and Light Liquid Separator	Valášek
41.	Ordódy	Final Project for Sanitary Installations in a Dwelling House with a Flat Heat Delivery Room	Valášek
42.	Takács	Final Project for Sanitary Installations in a Multifunctional Dwelling House	Valášek

## VII.2 Doctoral Theses

No.	Student's Name	Title	Supervisor
1.	Kovářová, Z.	Selection of Optimum Heating System for Halls with a Heat Supply from a Central Heating System	Petráš, D.

## VIII. OTHER ACTIVITIES

### VIII.1 Special Lectures

- [1] Organization of an International Conference on Heating 2004, Tatranské Zruby, 2004
- [2] Organization of the SANHYGA International Conference 2004, Piešťany, 2004
- [3] Organization of an International Conference on the Indoor Climate of Buildings 2004, Štrbské Pleso
- [4] Organization of national conference with international participation on Calculating Measuring and Heat Costs
- [5] Organization of a Seminar on "Decentralized Heating and Ventilation in Factories"
- [6] Cooperation in the Organization of a Seminar during "Aqua-Therm 2004" conference, Nitra
- [7] Organization of a national conference with international participation on "Ventilation and Air Conditioning", Liptovský Ján, 2004

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

1. Petráš, D., et al: Provision of Laboratory Testing for DEVO Group Company in Bratislava, 2004
2. Székyová, M., et al: A Review of the Air Conditioning System for a Regional Studio Building in Banská Bystrica, 2004
3. Kalús, D., et al: Effective Heating in PPS Group Buildings in Bratislava - A Case Study
4. Kalús, D., et al: A Case Study on the Energy - Economic Evaluation of Dwelling Houses from the Point of View of the Thermal Performance and Heating System of a Building



5. Petráš, D., et al: A Case Study on a Heating System and Heat Supply for the ZSNP Industrial Buildings in Žiar n. Hronom, Bratislava, 2004
6. Petráš, D., et al: Energy Audit of Dwelling House Systems and Houses in the Slovak Republic. Bratislava, Slovakia
7. Kalús, D., et al: A Case Study: Energy and Economic Aspects of Heating for a Basic School in Mníšku nad Hnilcom. Bratislava, 2004
8. Takács, J., et al: Energy Audit of a School Building in Mostova. Bratislava, 2004
9. Petráš, D., et al: A Detailed Case Study on "Heating Systems in Buildings" - ZSNP Industrial Area in Žiar nad Hronom. Bratislava, 2004
10. Lulkovičová, O., et al: "Professional Review of 3 Boiler Houses and 28 Heat Delivery Plants. Bratislava, 2004
11. Petráš, D., et al: Energy Audit of the Slovak National Council Office Building. Bratislava, 2004
12. Petráš, D., et al: Energy Audit of Buildings - Lectures. Dept. of Building Services. Bratislava, 2004
13. Takács, J., et al: Energy Audit of SaM Metalchem Buildings in Vlčie Hrdlo, Bratislava. 2004
14. Petráš, D., et al: Energy Audit of Buildings - Lectures. Bratislava, 2004
15. Jánošková, T.: Professional Review of Energy Costs for a Building at 38 Beňadická Street, Bratislava, 2004

## IX. PUBLICATIONS

### IX.1 Journals

- [1] PETRÁŠ, D.: *Climate control*. In: Intelligent Building and Design Innovations 2004, Issue No. 6, 2004, SPG Media Limited, pp. 66-67.
- [2] PERÁČKOVÁ, J.- GITSCHINSKY, P.: Analysis of a Roof Gutter as a Part of a Gravity Water Drainage System. TZB Haustechnik, 1/2004, pp. 37-40 (in Slovak)
- [3] PETRÁŠ, D. - KOUDELKOVÁ, D.: Floor Heating - Calculation Methods for Hot-Water and Electrical Heating. TZB Haustechnik, 3/2004, pp. 16-18 (in Slovak)
- [4] ŠABÍKOVÁ, J.: Fuel Cell Power Plant. TZB Haustechnik, 3/2004, pp. 45-46 (in Slovak)
- [5] ŠABÍKOVÁ, J.: Introduction of the New STN EN 121 70 and 121 71 Standards. TZB Haustechnik, 1/2004, pp. 46-47 (in Slovak)
- [6] KUCBEL, J.: Fire Protection Systems in Buildings. TZB Haustechnik, 3/2004, pp. 32-33 (in Slovak)
- [7] EHRENWALD, P.: Air Humidity Control Systems in Air Conditioning Systems. TZB Haustechnik, 1/2004, pp. 32-36 (in Slovak)
- [8] PETRÁŠ, D. - EHRENWALD, P.: STN EN 12828 - The New Standard in the Design of Warm Water Heating Systems in Buildings. TZB Haustechnik, 2/2004, pp. 25-27 (in Slovak)
- [9] EHRENWALD, P.: Optimized Solar Energy Use via an Automated Control for Solar Energy Systems. TZB Haustechnik, 4/2004, pp. 16-20 (in Slovak)

- [10] KURČOVÁ, M.: Effect of a Thermal - Hydronic Balance on the Objective Calculation of Heat Expenses - Based on Proportional Heat Cost Calculations. TZB Haustechnik, 2/2004, pp. 29-31 (in Slovak)
- [11] TAKÁCS, J. – POLONCOVÁ, Z.: Technology of Biomass Combustion. TZB Haustechnik, 4/2004, pp. 29-31 (in Slovak)
- [12] KOŽUCHOVÁ, S.: Experimental Determination of the Level of a Condensing Boiler's Use. TZB Haustechnik, 1/2004, pp. 28-31 (in Slovak)
- [13] JÁNOŠKOVÁ, T.: Possibilities for Data Collection of Energy Consumption During a Building Renovation. TZB Haustechnik, 5/2004, pp. 23-27 (in Slovak)
- [14] KOUDELKOVÁ, D.- PETRÁŠ, D.: Floor Heating - Control of Heat Output. TZB Haustechnik, 4/2004, pp. 10-11 (in Slovak)
- [15] MATEJ, P.: Evaluation of a Heat Pump's Efficiency. TZB Haustechnik, 4/2004, pp. 35-38 (in Slovak)
- [16] SZÉKYOVÁ, M.: Filtration - Basic Air Treatment in Air Conditioning Systems. TZB Haustechnik, 6/2004, pp. 6-11.
- [17] VALÁŠEK, J.: Sanitary-Technical Equipment and Installations - Internal Water Piping and Drainage in High-Rise Buildings. TZB Haustechnik, 5/2004, pp. 6-8 (in Slovak)
- [18] VALÁŠEK, J.: Sanitary Technical Equipment and Installations. Internal Drainage. TZB Haustechnik, 3/2004, pp. 6-8 (in Slovak)
- [19] ŠABÍKOVÁ, J.: Housing "à la" America. Stavba, 3/2004, pp. 28-31 (in Slovak)
- [20] ŠABÍKOVÁ, J.- LAGERCRANTZ, L.: Indoor Environmental Case Study - Indoor Environmental Investigation at Birch Krogboe Office Building . Slovak Journal of Civil Engineering, 1/2004, pp. 33-40.
- [21] LEIMBERGER, P.: Ventilation, Heating, and Air Conditioning. Urob si sám, 6/2004, pp. 14-16 (in Slovak)
- [22] KALÚS, D.: Selection of Heating Systems. Môj dom, 11/2004, pp. 149-153 (in Slovak)
- [23] TAKÁCS, J.: Analysis of Heat Demand and Consumption for Heating in Houses. ATP Journal, 3/2004, pp. 75-77 (in Slovak)
- [24] PETRÁŠ, D.: New Trends in Heating. ASB, 6/2004, pp. 70-72 (in Slovak)
- [25] PETRÁŠ, D.: New Buildings in the 21st Century. Eurostav, 2/2004, pp. 24-25 (in Slovak)

## IX.2 Books and Textbooks

- [1] PETRÁŠ, D.- KOUDELKOVÁ, D.- KABELE, K.: Warm Water and Electrical Floor Heating. Prague, JAGA Group, 2004, 185 pp. (in Czech)
- [2] LULKOVIČOVÁ, O.-PETRÁŠ, D.- BAŠTA, J.-JELÍNEK, V.-KABÁT, V.: Heat Sources and Boiler Rooms in Houses. Prague, JAGA Group, 2004, 400 pp. (in Czech)
- [3] PETRÁŠ, D.- KOUDELKOVÁ, D.: Warm Water and Electrical Heating. Bratislava, JAGA Group, 2004, 185 pp. (in Slovak)
- [4] LULKOVIČOVÁ, O.-PETRÁŠ, D.- BAŠTA, J.-JELÍNEK, V.-KABÁT, V.: Heat Sources and Boiler Rooms in Houses. Prague, JAGA Group, 2004, 400 pp. (in Slovak)

- [5] SZÉKYOVÁ, M.-FERSTL, K.-NOVÝ, R.: Ventilation and Air Conditioning. Bratislava, JAGA Group, 2004, 420 pp. (in Slovak)
- [6] LULKOVÍČOVÁ, O.: Heat Sources. In: Stavební tabulky. Part 4 – Heating. Bratislava, A – PROJEKT, 2004, pp. 36-52 (in Slovak)
- [7] VALÁŠEK, J.: Water Heater. In: Stavební tabulky. Part 4 – Heating. Bratislava: Vydavateľstvo A – PROJEKT, 2004, pp. 136-145 (in Slovak)
- [8] PETRÁŠ, D.: Low-Temperature Heating. In: Stavební tabulky. Part 4 – Heating. Bratislava, A – PROJEKT, 2004, pp. 254-257 (in Slovak)
- [9] TAKÁCS, J.: Heat Delivery Plants. In: Stavební tabulky. Part 4 Heating. Bratislava, A – PROJEKT, 2004, pp. 238-243 (in Slovak)
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