

DEPARTMENT OF LAND AND WATER RESOURCES MANAGEMENT

Head of Department

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1. EDUCATION

1.1 Graduate study

Obligatory subjects

Hydrology

Landscape Ecology

Landscape Ecology and Bioecology

Meteorology and Hydrology

Landscape Engineering

Engineering Structures in a Landscape

River Training

Pedology

River Restoration

Integrated River Basin Management

Water Management

Hydrological Field Measurements

CAD Systems in Landscape Engineering

Water Regime of a Landscape

Irrigation and Drainage

GIS in Water Management

Optional subjects

Project 1 – Sustainable Landscape Development

Basics of the Design of Landscape Structures

CAD Systems in Water Management

Project Work

Computer Modelling in Water Management

Design of Small Water Reservoirs

Revitalization of Wetlands

CAD Systems in Environmental Engineering

1.2 Postgraduate courses

Hydrology

Hydrology of Surface Waters

Hydrology of Sub-Surface Waters

Hydrodynamics of Porous Media

Methods of Field and Laboratory Experiments in Hydrology

Mathematical Modelling of Hydrological and Hydraulic Processes

Simulation Methods, Algorithms and Programming

Evaluation of the Risk of Extreme Hydrological Processes

Geoinformatics

Methods and Models of Hydrological Balance

Methods of Hydrological Forecasting

Deterministic and Stochastic Models of Hydrological Processes

Landscape Planning

Revitalization of Rivers

Soil Water Regime

Hydrochemistry and Hydrobiology

2. THESES

2.1 Bachelor theses

There were 16 works.

2.2 Graduate theses

Bednár, I.: Application of Data-Driven Methods in Hydrology

Supervisor: Čistý, M.

Benko, T.: River Training of the Rieka River in Čadca

Supervisor: Macura, V.

Blahová, A.: Assessment of Climate Change in the Poiplie Region

Supervisor: Skalová, J.

Husák, J.: Design of an Irrigation System by the Application of Simulation Methods

Supervisor: Čistý, M.

Jarabíková, M.: Impact of Vegetation Change on a Soil Water Regime

Supervisor: Skalová, J.

Klačanská, L.: Rainfall-Runoff Modeling of Extreme Hydrological Events

Supervisor: Kohnová, S.

Králik, M.: Recreational Use of the Surroundings of the Podhradský Creek in Košické Podhradie

Supervisor: Škrinár, A.

Mihalik, E.: Comparison of Short-Term Design Rainfalls Estimated Using Various Methodological Approaches

Supervisor: Kohnová, S.

Miháliková, M.: Scenarios of Extreme Runoff for Flood Protection Purposes

Supervisor: Hlavčová, K.

Miklíková, P.: Impact of Climate Change on the Runoff Regime of a Selected River Basin

Supervisor: Hlavčová, K.

Laštík, T.: Analysis of the Groundwater Level Regime in the Locality of Abrod

Supervisor: Skalová, J.

Studvová, Z.: Proposals for Soil Erosion Control in a River Basin

Supervisor: Hlavčová, K.

Szaboová, M.: Pooling of Mean Monthly Runoff in Slovakia

Supervisor: Kohnová, S.

Tóthová, K.: River Training of the Žitava River in Obyce

Supervisor: Škrinár, A.

Zechelová, K.: Scaling of the Short-Term Rainfall in a Selected Region of Slovakia

Supervisor: Kohnová, S.

2.3 Doctoral theses

Bulantová, M.: Evaluating the Impact of Land Use Change on the Runoff Processes in a Catchment

Supervisor: Hlavčová, K.

Danáčová, Z.: Indicator Methods for Estimating Discharges in Natural Rivers in Slovakia

Supervisor: Szolgay, J.

Kočický, D.: Parameterization of Hydrological Processes in Distributed Runoff Modelling

Supervisor: Szolgay, J.

Lešková, D.: Application of Local Warning Systems and Artificial Neural Networks in Hydroforecasting Practice

Supervisor: Hlavčová, K.

Škrovinová, M.: Assessing the Impact of Riparian Vegetation on the Quality of Aquatic and Terrestrial Habitats

Supervisor: Macura, V.

Števková, A.: Seasonality Analysis of Low Flows and Their Regional Distribution

Supervisor: Kohnová, S.

Vitková, J.: Impact of Climate Change on a Soil Water Regime

Supervisor: Skalová, J.

3. RESEARCH

3.1 Research projects

Hydrological Regionalisation – Towards a Coherent Framework (2010-2013, SZOLGAY, J.), Subcontract of a research project of the Austrian Foundation for Research FWF P 18993

Hybrid Methods for the Modelling and Evaluation of Hydrological Extremes for a Risk Analysis (2011-2015, HLAVČOVÁ, K.), VEGA 1/0908/11

Effect of the Biotic and Abiotic Characteristics of Stream Ecosystems on the Water Regime of Soils (2011-2015, MACURA, V.), VEGA 1/0243/11

Evolutionary Algorithms and Data-Driven Methods in the Water Management of a Landscape (2011-2015, ČISTÝ, M.), VEGA 1/1044/11

Heuristic Models for the Optimization of Water Management Interventions in a Landscape (2009-2013, ČISTÝ, M.), APVV LPP-0319-09

Spatial Interpretation of Soil Hydrophysical Characteristics in Relation to Their Hydrological Regime (2011-2014, SKALOVÁ, J.), APVV-0139-10

Multivariate Frequency Analysis of Hydrological Extremes for Water Resources Planning and Design (2011-2014, SZOLGAY, J.), APVV-0496-10

Development of Methods for Determining Climatic and Hydrological Design Characteristics (2011-2015, KOHNOVÁ, S.), Research project of the European Fund for Regional Development

Integrated System for the Simulation of Runoff Processes (2011-2014, HLAVČOVÁ, K.) Research project of the European Fund for Regional Development

Development of a Regional System of Climate and Rainfall Models for the Prediction of Runoff under Changed Climate in the Mountainous Regions of Slovakia (2012-2015, HLAVČOVÁ, K.), APVV-0303-11

3.2 International cooperation

Cooperating institutions

Department of Hydraulic Engineering, Faculty of Civil Engineering, Czech Technical University, Prague, Czech Republic

Department of Landscape and Water Management, Faculty of Civil Engineering, Technical University, Brno, Czech Republic

Institute of Hydraulics, Hydrology and Water Management, Faculty of Civil Engineering, Vienna University of Technology, Vienna, Austria

Department of Hydraulic Structures, Warsaw Agricultural University, Poland
VITUKI – Water Research Centre, Budapest, Hungary

University of Uppsala, Sweden

Delft Hydraulics, Delft, The Netherlands

European Joint Research Centre, ISPRA, Italy

University of Bologna, Italy

Institute of Hydromechanics and Water Resources Management, Swiss Federal Institute of Technology, Zürich, Switzerland

University of Padova, Department of Land and Agroforest Environments, Italy

University of Jean Moulin Lyon 3, Lyon, France

Membership in international professional organizations

Hlavčová, K.: Member of the International Association of Hydrological Sciences

Hlavčová, K.: Member of the European Geosciences Union

Kohnová, S.: Member of the European Geosciences Union

Kohnová, S.: Member of the International Association of Hydrological Sciences

Szolgay, J.: Member of the Editorial Board of the Journal of River Basin Management

Szolgay, J.: Member of the Editorial Board of the Water Resources Management

Szolgay, J.: Member of the Editorial Board of the Journal of Hydrology

Szolgay, J.: Member of the Editorial Board of the Journal of Hydrological Sciences

Szolgay, J.: National Correspondent of IAHS for Water Management Systems

Szolgay, J.: National Representative of the International Association for Hydrological Sciences

Szolgay, J.: Chairman of the Subdivision for Hydrological Forecasting of the Hydrological Division of the EGU

Szolgay, J.: Member of the Association of Hydrological Sciences

Bacigál, T. – Kohnová, S. – Szolgay, J. – Hlavčová, K.: Design Flood: Estimation of the Parameters of the Joint Distribution Function of Discharges and Flood Volumes by Copulas. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 2 (2012), pp. 297-305 (in Slovak)

Bajtek, Z.: Design of Irrigation Distribution Systems Using Multi-Stage Optimization. In: *Acta Horticulturae et Regioecturae*, ISSN 1335-2563. – Vol. 15, Special Issue (2012), pp. 4-6 (in Slovak)

Čistý, M. – Bezák, J. – Skalová, J.: Comparison of the Effectiveness of Ensemble Models in Soil Hydrology. In: *International Journal on Data Mining and Intelligent Information Technology Applications*, ISSN 2234-3660. – Vol. 2, No. 2 (2012), pp. 66-75 (in English)

Danáčová, Z. – Danáčová, M. – Szolgay, J.: Indicator Methods for Measuring Discharges in Slovak Rivers. In: *Meteorological Journal*, ISSN 1335-339X. – Vol. 15, No. 1 (2012), pp. 13-18 (in Slovak)

Daneková, J. – Szász, V. – Tegelhoffová, M. – Szolgay, J.: Uncertainties in the HBV Model Calibration Connected with the Selection of Calibration Data. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 1 (2012), pp. 219-232 (in Slovak)

Gaál, L. – Szolgay, J. – Kohnová, S. – Parajka, J. – Merz, R. – Viglione, A. – Blöschl, G.: Flood Timescales: Understanding the Interplay of Climate and Catchment Processes through Comparative Hydrology. In: *Water Resources Research*, Vol. 48 (2012) (in English)

Jeneiová, K. – Kohnová, S. – Hlavčová, K.: The Modelling of Extreme Runoff Scenarios in the Summer Season in the Vistucky Stream Catchment. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 1 (2012), pp. 254-259 (in Slovak)

Kyselý, J. – Beguería, S. – Beranová, R. – Gaál, L. – Lopez-Moreno, J. I.: Different Patterns of Climate Change Scenarios for Short-Term and Multi-Day Precipitation Extremes in the Mediterranean. In: *Global and Planetary Change*, ISSN 0921-8181. – Vol. 98-99 (2012), pp. 63-72 (in English)

Lešková, D. – Šimor, V. – Hlavčová, K. – Kohnová, S.: Application of Artificial Neural Networks in Flood Forecasting Protection Systems. In: *Meteorological Journal*, ISSN 1335-339X. – Vol.15, No.1 (2012), pp. 3-11 (in Slovak)

Macura, V. – Škrinár, A. – Kalúz, K. – Jalčovníková, M. – Škrovinová, M.: Influence of the Morphological and Hydraulic Characteristics of Mountain Streams on Fish Habitat Suitability Curves. In: *River Research and Applications*, ISSN 1535-1467. – Vol. 28, No. 8 (2012), pp. 1161-1178 (in English)

Macurová, Z. – Výleta, R. – Hlavčová, K. – Szolgay, J. – Kohnová, S.: An Analysis of the Impact of Climate Change on the Laborec River Basin Using Two Different Hydrological Models. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 1 (2012), pp. 242-253 (in English)

Pásztorová, M. – Skalová, J. – Vitková, J. – Juráková, M.: Development of Groundwater Levels as a Consequence of Climate Change. In: *Slovak Journal of Civil Engineering*, ISSN 1210-3896. – Vol. 20, No. 1 (2012), pp. 29-34 (in English)

4. PUBLICATIONS

Parts of books

Čistý, M.: Optimal Design or Rehabilitation of an Irrigation Project's Pipe Network. In: *Problems, Perspectives and Challenges of Agricultural Water Management*. – Rijeka: InTech, 2012. – ISBN 978-953-51-0117-8. – pp. 353-368 (in English)

Szolgay, J. – Kohnová, S. – Gaál, L.: WG2 Member Reports. SK – Slovakia. In: *Floodfreq. European Procedures for Flood Frequency Estimation. Review of Applied-Statistical Methods for Flood-Frequency Analysis in Europe*. Centre for Ecology and Hydrology on Behalf of COST, 2012. – ISBN 978-1-906698-32-4. – pp. 91-98 (in English)

Journals

Antal, J. – Novák, V. – Húska, D. – Macura, V. – Bednářová, E. – Dušička, P. – Jakubis, M. – Halaj, P. – Reháč, Š. – Skalová, J. – Možiešik, L. – Miklánek, P. – Hlavčová, K. – Fendeková, M. – Jurík, L. – Heinige, V. – Stančíková, A. – Slaninka, V. – Mišík, M. – Jalčovníková, M. – Podkonický, L. – Barek, V. – Stradiot, P. – Stančík A. – Horvát, O.: The Concept and Implementation of Landscape Revitalisation and Integrated River Basin Management of the Slovak Republic. In: *Water Management Journal*, ISSN 0322-886X. – Vol. 55, Nos. 3-4 (2012), pp. 12-13 (in Slovak)

Pásztorová, M. – Skalová, J.: Development of Soil Water Storage as a Consequence of Climate Change. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 1 (2012), pp. 59-69 (in Slovak)

Pásztorová, M. – Skalová, J. – Vitková, J. – Jánošík, J.: Development of the Soil Water Regime as a Consequence of Climate Change. In: *Növénytermelés*, ISSN 0546-8191 (Print). – ISSN 2060-8543 (Online). – Vol. 61 (2012), pp. 231-234 (in English)

Pásztorová, M. – Skalová, J.: Forecasting Precipitation and Temperatures for the Poiplie Region. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol. 13, No. 2 (2012), pp. 314-323 (in Slovak)

Rončák, P. – Bezák, J. – Čistý, M.: Comparison of Physically-Based and Data-Driven Models in the Belá River Basin. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol. 13, No. 1 (2012), pp. 196-206 (in Slovak)

Spál, P. – Danáčová, M. – Szolgay, J. – Hlavčová, K.: Using the SCS-CN Method for Estimation of Direct Runoff in the Small Carpathian Region. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 1 (2012), pp. 260-269 (in Slovak)

Szőkeová, D. – Kohnová, S.: Setar Models in the Streamflow Modelling. In: *Forum Statisticum Slovacum*, ISSN 1336-7420. – Vol. 8, No. 1 (2012), pp. 56-61 (in English)

Szolgay, J. – Kohnová, S. – Bacigál, T. – Hlavčová, K.: Design Flood: Joint Probability Analysis of Maximum Discharges and Their Volumes. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol. 13, No. 2 (2012), pp. 289-296 (in Slovak)

Šimor, V. – Hlavčová, K. – Kohnová, S. – Szolgay, J.: Application of Artificial Neural Networks for Estimating Index Floods. In: *Contributions to Geophysics and Geodesy*, ISSN 1335-2806. – Vol. 42, No. 3 (2012), pp. 295-311 (in English)

Šimor, V. – Sabo, M. – Szőkeová, D. – Hlavčová, K. – Kohnová, S.: Comparison of Time Series Models and Artificial Intelligence Methods for Predicting Mean Monthly Discharges. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 1 (2012), pp. 207-218 (in Slovak)

Škrovinová, M. – Macura, V. – Jalčovníková, M. – Stankoci, I. – Kráľová, J.: Evaluation of the Quality of the Habitat of the Drietomica Flow by the QBR, BEHI, HMS, RGA and RCE Methodologies. In: *Acta Horticulturae et Regiotecturae*, ISSN 1335-2563. – Vol. 15, Special Issue (2012), pp. 56-59 (in Slovak)

Škrovinová, M. – Stankoci, I. – Kráľová, J. – Macura, V.: Evaluation of the Quality of the Aquatic Habitat and Fish Covers for Brown Trout of the Drietomica River by the RHABSIM Model. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 1 (2012), pp. 126-134 (in English)

Števková, A. – Sabo, M. – Kohnová, S.: Pooling of Low Flow Regimes Using Cluster and Principal Component Analysis. In: *Slovak Journal of Civil Engineering*, ISSN 1210-3896. – Vol. 20, No. 2 (2012), pp. 19-27 (in English)

Valent, P. – Szolgay, J. – Rivero, C.: Assessment of the Uncertainties of a Conceptual Hydrologic Model by Using Artificially Generated Flows. In: *Slovak Journal of Civil Engineering*, ISSN 1210-3896. – Vol. 20, No. 4 (2012), pp. 35-43 (in English)

Valent, P. – Daneková, J.: Uncertainties in the Calibration of a Hydrologic Model. In: *Acta Horticulturae et Regiotecturae*, ISSN 1335-2563. – Vol. 15, Special Issue (2012), pp. 70-72 (in Slovak)

Vitková, J. – Pásztorová, M. – Skalová, J.: Development of Precipitation and Air Temperature Due to Climate Change. In: *Növénytermelés*, ISSN 0546-8191(Print), ISSN 2060-8543 (Online). – Vol. 61 (2012), pp. 389-392 (in English)

Výleta, R. – Szolgay, J.: Assessment of the Seasonal Impact of Parameters of a Simple Markov Model of the First Order on the Quality of the Simulation of Daily Precipitation Amounts. In: *Acta Hydrologica Slovaca*, ISSN 1335-6291. – Vol.13, No. 2 (2012), pp. 306-313 (in Slovak)

Conference Proceedings

Bajtek, Z. – Bezák, J.: Comparison of the Optimization Methods for Design of the Irrigation Water Distribution Network. In: *Proceedings of Water and Landscape 2012 Conference*. Prague, CR, 19. 9. 2012. – Prague: CTU in Prague, 2012. – ISBN 978-80-01-05107-8. – pp. 7-15 (in Slovak)

Bezák, J. – Rončák, P.: Comparison of a Physically-Based and Data-Driven Model in the Aragvi Watershed (Georgia). In: *Proceedings of 24th Conference of Young Hydrologists*. Bratislava, SR, 14. 11. 2012. – Bratislava: Slovak Hydrometeorological Institute, 2012. – ISBN 978-80-88907-81-7 (in Slovak)

Bezák, J. – Rončák, P.: Comparison of Various Modelling Methods for Flow Prediction. In: *Proceedings of Water and Landscape 2012 Conference*. Prague, CR, 19. 9. 2012. – Prague: CTU in Prague, 2012. – ISBN 978-80-01-05107-8. – pp. 15-28 (in Slovak)

Bezák, J.: Using Data Mining Methods for Flow Predictions in the Kysuca River Watershed. In: *Proceedings of Advances in Architectural, Civil and Environmental Engineering*. 22nd Annual Doctoral Student Conference. Bratislava, SR, 15. 11. 2012. – Bratislava: SUT in Bratislava, 2012. – ISBN 978-80-227-3853-8. – pp. 209-219 (in Slovak)

Čederlová, L.: Water Balance Modelling with a Yearly Time Step. In: *Proceedings of Advances in Architectural, Civil and Environmental Engineering*. 22nd Annual Doctoral Student Conference. Bratislava, SR, 15. 11. 2012. – Bratislava: SUT in Bratislava, 2012. – ISBN 978-80-227-3853-8. – pp. 940-945 (in Slovak)

Čistý, M. – Bezák, J.: Comparison of Data-Driven Models for Forecasting River Flows. In: *RCOMM 2012. Proceedings of the 3rd RapidMiner Community Meeting and Conference*. Budapest, Hungary, 28. – 31. 8. 2012. – Aachen: Shaker Verlag, 2012. – ISBN 978-3-8440-0995-8. – pp. 125-136 (in English)

Čistý, M. – Bajtek, Z.: Evaluation of Optimization Techniques Applied on Optimal Design of Water Distribution Systems in Irrigation. In: *Proceedings of SGEM 2012. 12th International Multidisciplinary Scientific GeoConference*. Vol. II, 17 – 23 June, 2012, Bulgaria. – Sofia: SGEM, 2012. – ISBN 1314-2704. – pp. 663-670 (in English)

Čistý, M. – Bajtek, Z. – Suchár, M.: Design of Irrigation System by a Heuristic Method and Its Analysis by a Simulation Model. In: *Proceedings of 9th International Scientific Conference of the Faculty of Civil Engineering: Košice*,

- SR, May 22 – 25, 2012. – Košice: Technical University in Košice, 2012. – ISBN 978-80-553-0905-7 (in English)
- Čistý, M. – Bezák, J. – Skalová, J.: Development of Pedotransfer Functions by Means of the Ensemble Data-Driven Methodology. In: Proceedings of 8th International Conference on Engineering Computational Technology. Dubrovnik, Croatia, 4. – 7. 9. 2012. – 2012. – ISBN 978-1-905088-55-3 (in English)
- Čistý, M. – Bezák, J. – Lešková, D.: The Application of Data Mining Methods in Hydrology – A Case Study of the Kysuca River. In: Proceedings of HydroCarpath: Catchment Processes in Regional Hydrology: from Experiment to Modelling in Carpathian Drainage Basins. Sopron, Hungary, 28. – 30. 10. 2012. – Sopron: University of West Hungary, 2012. – ISBN 978-963-334-069-1 (in English)
- Čistý, M. – Bajtek, Z.: Optimizing Design of Water Distribution Network Using a Hybrid Method. In: Proceedings of Transport of Water, Chemicals and Energy in the Soil-Crop Canopy-Atmosphere System. 20th International Poster Day. Bratislava, SR, 15. 11. 2012. – Bratislava: Institute of Hydrology of SAS, 2012. – ISBN 978-80-89139-28-6. – pp. 115-123 (in English)
- Danek, L. – Daneková, J.: Evaluation of Flood Web Portals. In: Proceedings of Juniorstav 2012. 14th Conference of Doctoral Studies. Brno, 26. 1. 2012. – Brno: TU in Brno, 2012. – ISBN 978-80-214-4393-8 (in Slovak)
- Gaál, L. – Kohnová, S. – Szolgay, J. – Hlavčová, K.: Assessing T-Year Flood Quantiles by Means of Bayesian MCMC Simulations. A Case Study at the Myjava River, Slovakia. In: Proceedings of 2nd European Conference on Flood Risk Management. Science, Policy and Practice. Rotterdam, the Netherlands, 20. 22. 11. 2012. – 2012 (in English)
- Gaál, L. – Molnár, P. – Szolgay, J.: Intense Summer Storms in Switzerland: Identification on the Basis of Lightning and a Trend Analysis. In: Proceedings of Advanced Methods for Flood Estimation in a Variable and Changing Environment: International Conference. Book of Abstracts. Volos, Greece, 24. – 26. 10. 2012. – Thessaloniki: University of Thessaloniki, 2012 (in English)
- Gaál, L. – Molnár, P. – Szolgay, J.: The Effect of Precipitation Corrections on the Dependence Structure of Storm Characteristics. In: Proceedings of Urban Challenges in Rainfall Analysis. 9th International Workshop on Precipitation in Urban Areas. St. Moritz, Switzerland, 6. – 9. 12. 2012. – Zürich: ETH, 2012. – ISBN 978-3-906031-21-7. – pp. 33-37 (in English)
- Gaál, L. – Molnár, P. – Szolgay, J.: Trends in Intense Summer Storms in Switzerland Identified by Lightning Strikes and a Convection Index (Poster). In: Proceedings of Deciphering River Flood Change. Vienna, 3. – 5. 9. 2012. – 2012 (<http://erc.hydro.tuwien.ac.at>) (in English)
- Ivan, P.: Design of a Communication Network in Land Consolidations. In: Proceedings of Conference of Young Researchers. Kočovce, SR, 21. – 23. 11. 2012. Bratislava: SUT in Bratislava, 2012. – ISBN 978-80-227-3816-3. – pp. 1-7 (in Slovak)
- Ivan, P. – Muchová, Z.: Design of Road Devices and Measures in Land Consolidations. In: Proceedings of Student Scientific Conference FZKI 2012. Nitra, SR, 25. 4. 2012. – Nitra: Slovak Agricultural University in Nitra, 2012. – ISBN 978-80-552-0888-6. – pp. 84-89 (in Slovak)
- Jánošík, J.: Verification of Pedotransfer Functions Using ANNs. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 22nd Annual Doctoral Student Conference. Bratislava, SR, 15. 11. 2012. – Bratislava: SUT in Bratislava, 2012. – ISBN 978-80-227-3853-8. – pp. 220-224 (in Slovak)
- Jarabíková, M. – Jánošík, J.: Analysis of Changes in the Water Regime Characteristics of Soil for Different Crops in the Locality of Belianske Lúky. In: Proceedings of Transport of Water, Chemicals and Energy in the Soil-Crop Canopy-Atmosphere System. 20th International Poster Day. Bratislava, SR, 15. 11. 2012. – Bratislava: Institute of Hydrology of SAS, 2012. – ISBN 978-80-89139-28-6. – pp. 289-302 (in Slovak)
- Jarabíková, M. – Pásztorová, M.: Changes in Management and Its Impact on the Soil Water Regime in the Region of Belianske Lúky. In: Proceedings of 11th Conference of Young Water Managers. Bratislava, SR, 14. 11. 2012. – Bratislava: SHMI, 2012. – ISBN 978-80-88907-81-7 (in Slovak)
- Jeneiová, K.: Analysis of the Presence of Changes in a Long-Term Hydrological Data Series – a Literature Review. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 22nd Annual Doctoral Student Conference. Bratislava, SR, 15. 11. 2012. – Bratislava: SUT in Bratislava, 2012. – ISBN 978-80-227-3853-8. – pp. 982-988 (in Slovak)
- Jeneiová, K. – Kohnová, S. – Hlavčová, K.: Comparison of Two Approaches for Computing the Potential Evapotranspiration in a Rainfall-Runoff Model in the Vištucký Stream Basin. (Poster). In: Proceedings of Workshop of Adolf Patera 2012: Extreme Hydrological Situations in River Basins. Brno, CR, 31. 5. 2012. – Brno: TU in Brno, 2012. – ISBN 978-80-02-02423-1 (in Slovak)
- Jeneiová, K. – Čederlová, L. – Kohnová, S.: Rainfall-Runoff Modelling of Extreme Hydrological Events in the Upper Hron River Basin. In: Proceedings of HydroCarpath: Catchment Processes in Regional Hydrology: from Experiment to Modelling in Carpathian Drainage Basins. Sopron, Hungary, 28. – 30. 10. 2012. – Sopron: University of West Hungary, 2012. – ISBN 978-963-334-069-1 (in English)
- Jeneiová, K. – Kohnová, S. – Hlavčová, K.: The Comparison of Two Calculations of PET in the Vištucký Stream Catchment. In: Proceedings of Workshop of Adolf Patera 2012: Extreme Hydrological Situations in River Basins. Brno, CR, 31. 5. 2012. – Brno: TU in Brno, 2012. – ISBN 978-80-02-02423-1. pp. 275-281 (in Slovak)
- Juričeková, K.: Climate Change and Its Impact on Hydrological Processes. In: Proceedings of Advances in Architectural, Civil and Environmental Engineering. 22nd Annual Doctoral Student Conference. Bratislava, SR, 15. 11. 2012. – Bratislava: SUT in Bratislava, 2012. – ISBN 978-80-227-3853-8. – pp. 225-230 (in Slovak)
- Juričeková, K.: Effect of the Topographic Factor on Estimating Soil Losses in a Catchment. In: Proceedings of 11th Conference of Young Water Managers. Bratislava, SR, 14. 11. 2012. – Bratislava: SHMI, 2012. – ISBN 978-80-88907-81-7 (in Slovak)
- Juričeková, K.: Usle2D as a Part of the Universal Soil Loss Equation. In: Proceedings of HydroCarpath: Catchment Processes in Regional Hydrology: from Experiment to Modelling in Carpathian Drainage Basins. Sopron, Hungary,

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DEPARTMENT OF HYDRAULIC ENGINEERING

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1. EDUCATION

1.1 Graduate study

Obligatory subjects

Hydraulics I

Hydraulics II

Water Management Structures

Weirs

Groundwater Hydraulics

Inland Waterways

Computer Exploitation in Engineering

Special Issues of Weirs

Special Issues of Waterways

Operation and Reconstruction of Hydraulic Structures

Small Water Power Plants

Stability and Static Solutions for Hydraulic Structures

Water Power Utilization

Field Measurements

Hydroenergetics

Construction of Metallic Hydraulic Structures

Hydraulic Research

Engineering Networks and Water Structures

Automation of Engineering Problems

Special Issues of Hydraulic Engineering

Numerical Modelling of Hydraulic Processes

Water and Road Constructions

1.2 Postgraduate courses

Hydroenergy Systems

Hydraulic Modeling of Hydrodynamic Phenomena

Fluid Mechanics

Advanced Chapters of Hydraulic Structures

2. THESES

2.1 Bachelor theses

There were 18 works.

2.2 Graduate theses

Hatváni, P.: Construction of the Weir at the Selice Water Structure

Supervisor: Možiešik, L.

Piatnica, M.: Hydraulic Design of a Fish Pass at the Hliník nad Hronom SHPP

Supervisor: Čubanová, L.

Varchola, D.: Bobrovec Small Hydropower Plant

Supervisor: Dušička, P.

Sedláček, P.: Measurements and Computations on a Triangular Weir

Supervisor: Čubanová, L.

Hanes, M.: Model of the Operational Planning of the Gabčíkovo HPP

Supervisor: Šulek, P.

Janko, I.: Design of a Small Hydropower Plant on the Hron River in Banská

Bystrica – Majer

Supervisor: Šulek, P.

Roth, P.: Design of the Hrboltová Small Hydropower Plant

Supervisor: Rumann, J.

Feja, J.: Design of a Small Hydropower Plant in Hniezdne on the Poprad River

Supervisor: Dušička, P.

Strelcová, D.: Design of a Structure for Overcoming Water Level Differences in Selected Locations on the Hron River

Supervisor: Cabadaj, R.

Mikuš, R.: Design of the Kolárovo Navigation Lock on the Váh River

Supervisor: Cabadaj, R.

Zerényi, T.: Design of a Weir on the Hron River in Jalná

Supervisor: Gramblička, M.

Guľašová, J.: Design of a Whitewater Course on the Hornád River

Supervisor: Rumann, J.