

## BENE KATALIN, Ph.D., P.E.

Egyetem tér 1.  
Győr, Hungary  
Phone: 36305143254  
E-mail: benekati@sze.hu

---

### TANULMÁNYOK

- Doctor of Philosophy, (Vízépítőmérnök) Dept of Civil and Environmental Engineering, University of South Carolina. December, 1996.  
Disszertáció: Measurement Methods and Data Analyses for Vadose Zone Characterization at a Vegetated Field Site. (Növényekkel borított vízgyűjtő komplex modellezése)
- Master of Science, (Vízépítőmérnök) Dept of Civil Engineering, University of South Carolina. Augusztus, 1991.  
Diploma: Channel Routing Effects on Unit Hydrograph Shape. (Meder modellezés hatása Egységárhullámok alakjára)
- *Okleveles Építőmérnök*, (Vízépítőmérnök) Budapesti Műszaki Egyetem. Június, 1987.

### FŐ SZAKTERÜLETEK

- Mért-nem mért vízgyűjtők modellezése
- Karszt hidrológia modellezése
- Geo-statisztikai elemzések
- Telítetlen talajok modellezése

### SZAKMAI TAPASZTALAT

*Ősz 2011-Jelen*

*Közlekedéscsillapítási és Vízmérnöki Tanszék, Széchenyi István Egyetem, Győr*  
**Egyetemi Docens.** Vízmérnöki szakfelelős

2007 - 2011

Department of Civil and Environmental Engineering, University of South Carolina, USA  
**Óraadó tanár.** Vízépítési és számítógépes tárgyak oktatása

2004 – 2011

B&R Consulting, USA  
**Tervező mérnök.** Tervezés, és továbbképzés építőmérnökök számára

2000 – 2004

Civil Engineering Technology, Central Carolina Technical College, USA  
**Főiskolai Oktató.** Építőmérnöki és számítógépes tárgyak oktatása

1998- 2000

Department of Civil and Environmental Engineering, University of South Carolina, USA  
**Tudományos munkatárs.** Telítetlen talajok vizsgálata. Talajszennyeződések modellezése.

1997- 1998

Department of Environmental Engineering, Mercer University, USA  
**Egyetemi adjunktus.** Környezetmérnöki, és matematikai tárgyak oktatása.

1989 - 1996

Department of Civil and Environmental Engineering, University of South Carolina, USA  
**Tanszéki mérnök, kutató asszisztens.**

1988 - 1989

Civil Engineering of Columbia, Columbia, SC, USA  
**Építőmérnök.**

1987 - 1988

*Mélyépterv, Budapest*  
**Építőmérnök.** Szennyvíztisztító telepek tervezése.

## JOGOSULTSÁGOK

- Professional Engineer (PE), South Carolina, 2000
- *AutoCAD 2013 Certified Professional 00262198*

## TAGSÁGOK, DÍJAK

- Outstanding Graduate Student, Department of Civil Engineering, University of South Carolina, 1992.
- Chi Epsilon, 1996.
- MTA köztestületi tag, 2015-től
- VEAB (Veszprémi Akadémiai Bizottság) Vízgazdálkodási munkabizottság –elnök 2017- től
- Magyar Hidrológia Társaság Győri testületi szervezeti bizottság -tag 2018-tól
- EGU (European Geosciences Union) -tag

## OKTATOTT TÁRGYAK

- **Széchenyi István Egyetem, Közlekedésmérnöki Tanszék**  
*Bevezetés az építőmérnökségbe (B.Sc.)*  
Introduction to civil engineering (B.Sc.)  
*Számítógépes grafika (B.Sc., M.Sc.)*  
*Műszaki hidrológia (B.Sc.)*  
Hydrology (B.Sc.)  
*Hidraulika (B.Sc.)*  
Hydraulics (B.Sc.)  
*Vízépítés (M.Sc.)*  
Hydraulic engineering (M.Sc.)  
*Alkalmazott hidrológia (M.Sc.)*  
*Vízkezelésgazdálkodás (M.Sc.)*  
*Felszíni és felszín alatti vizek modellezése (doktori iskola)*
- **University of South Carolina, Civil and Environmental Engineering**  
ECIV 111 Introduction to ACAD (Számítógéps grafika)  
ECIV 360L Hydraulics Laboratory (Hidraulikai labor)  
ECIV 560 Open Channel Hydraulics (Nyíltfelszínű medrek)  
ECIV 763 Unsaturated Flow Theory (Telítetlen talajok)
- **University of South Carolina, Sumter**  
ENGR 101 Introduction to Engineering (Bevezetés az építőmérnökségbe)  
ENGR 102 Introduction to CAD (Számítógéps grafika)  
ENGR 200 Statics (Statika)
- **Mercer University, Environmental Engineering**  
EGR 172L Engineering Analyses and Application (Matematika)  
EGR 250 Probability and Statistics for Engineers (Mérnöki statisztika)  
EVE 288 Introduction to Environmental Engineering (Bev. a környezetmérnökségbe I)

EVE 289 Introduction to Environmental Engineering (Bev. a környezetmérnökségbe II)  
EVE 491 Groundwater Contamination

- **Central Carolina Technical College**

MAT 110 College Algebra  
MAT 120 Probability and Statistics  
MAT 140 Calculus  
EGR 110 Introduction to Computer Environment  
EGR 151 Introduction to CAD  
CET 216 Soil Mechanics  
CET 218 Fluid Mechanics  
CET 246 Environmental Systems Technology  
EVT 204 Hydrology  
PHY 201 Physics I

## KÉPZÉSEK

*“Vízgyűjtő modellezés” szakmérnöki képzés, Budapesti Műszaki és Gazdaságtudományi Egyetem, 2015.*

“Open Channel Hydraulics” Sumter, Environmental Training Center, 2007-2009.

“ACAD for Engineers” Sumter, Environmental Training Center, 2007-2009.

“Watershed Hydrology” Sumter, Environmental Training Center, 2007-2009.

“Stormwater Management” Sumter, Environmental Training Center, 2007-2009.

“Groundwater Chemistry and Contaminant Transport,” Sumter, Environmental Training Center, May 2002 and May 2003.

“Hydraulics and Surface Water Hydrology,” Charleston Naval Shipyard, Charleston, SC, May and July, 1994.

“Hydraulic Parameter Determination for Site Assessment”, Sponsored by the University of Nebraska-Lincoln, College of Engineering and Technology, Division of Continuing Education, Omaha, Nebraska, March 2-3, 1995.

## PUBLIKÁCIÓK

MTMT link <https://m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=authors10029909>

Alsilibe, F., **Bene K.**, Bilal G., Alghafli K, Shi X. (2023) “Accuracy Assessment and Validation of Multi-Source CHIRPS Precipitation Estimates for Water Resource Management in the Barada Basin, Syria” Remote sensing 15 : 7 Paper: 1778 (2023)

Kámán A, **Bene K.** (2023) “Optimized Implementation of Nature-based Solutions for Sustainable Economic Benefits in a Watershed with Water Deficit – a Case Study in Hilly Settlements of Lake Velence” Chemical Engineering Transaction, 107, 265-270

Ámon, G., **Bene K.** (2023) “Impact of Different Rainfall Intensity and Duration on Flash-Flood Events on a Steep-Sloped Ungauged Watershed” Chemical Engineering Transaction, 107, 175-180

Ámon, G., **Bene K.** (2023) “Rainfall Duration and Parameter Sensitivity on Flash-Flood at a Steep Watershed” Pollack Periodica: An International Journal For Engineering And Information Sciences 18 : 2 pp. 54-59

Alsibile, F., **Bene K.** (2021) „Watershed subdivision and weather input effect on streamflow simulation using SWAT model” Pollack Periodica: An International Journal For Engineering And Information Sciences (ISSN: 1788-3911) <https://doi.org/10.1556/606.2021.00349>.

Mátyás, K., **Bene K.** (2018) “Using numerical modeling error analyses methods to indicate changes in a watershed,” Pollack Periodica: An International Journal For Engineering And Information Sciences (ISSN: 1788-3911) 13: (3) pp. 175-186.

Murinkó, L. G, **Bene K.** (2017) “Modelling a loess bank hydrology along the Danube in Hungary” Pollack Periodica: An International Journal for Engineering and Information Sciences 12 (ISSN: 1788-3911) (1) pp. 3-15.

Mátyás, K., **Bene K.** (2017) „Comparison of Annual Prediction Methods for Spring Flow in the Aggtelek Region”: Acta Technica Jaurinensis 10:(1) pp. 70-83.

Nagy, E., Torma P., **Bene K.**, (2016)“Comparing methods for computing the time of concentration in a medium-sized Hungarian catchment” Slovak Journal of Civil Engineering (ISSN: 1210-3896) 24 (4) pp 8-14.

Koch, R., **Bene K.**, (2013) „Continuous hydrologic modeling with HMS in the Aggtelek Karst region” Hydrology Research (ISSN: 1998-9563) 1: (1) pp. 1-7.

Koch, R, **Bene K.**, Hajnal G. (2012) “Hydrological Study of the Aggtelek Karst Springs,” Pollack Periodica: An International Journal For Engineering And Information Sciences (Issn: 1788-1994) (ISSN: 1788-3911) 8: (2) Pp. 107-116.

Gribb, M.M., **Bene, K.**, Shrader A. (2002) “Sensitivity Analyses of a Leachability Model for assessment of Petroleum-Contaminated Sites,” Advances in Environmental Research, Volume 7, Number 1, november 2002, pp. 59-72(14).

## Konferenciák

Ámon, G, **Bene, K.** (2020)” Baseflow and high flow models of the unaged Morgó watershed” EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-13004.

Mátyás, K., **Bene, K.**, Koch, R. (2020) „Flow trends in Western Hungary” EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-13339.

Mátyás, K., **Bene, K.**, (2018) „Long-term flow predictions using semi-distributed flow models” In: Péter, Kalicz; Kamila, Hlavcová; Silvia, Kohnová; Viera, Rattayová; Zoltán, Gribovszki (szerk.) Catchment Processes in Regional Hydrology: Field Experiments and Modelling in Carpathians Basins Sopron, Hungary: University of Sopron Press, p. 35 Paper: P19

Mátyás, K., Nagy, E.D., **Bene K.**, Torma P., Kerék G., (2018) „Mapping Seasonal Runoff Distribution in Northwestern Hungary Using Kriging Method.” GEOPHYSICAL RESEARCH ABSTRACTS 20 Paper: 12355

Ray R., **Bene K.** (2018) „Hydrologic Modelling of the Loess Bluff in Dunaujváros, Hungary” GEOPHYSICAL RESEARCH ABSTRACTS 20 Paper: 12266

Ray R., **Bene, K.** (2017) “Evaluating Unsaturated Behavior For Geotechnical Analysis” XVII. Danube-European Conference on Geotechnical Engineering, 5-6 June 2017, Bratislava, Slovakia

Koch, D., **Bene K.**, Keve G. (2017) „Hydraulic Design Of Culverts” In: Plamen, Ninov; Elena, Bojilova (eds.) Electronic book with full papers from XXVII Conference of the Danubian Countries on Hydrological Forecasting and Hydrological Bases of Water Management Sofia, Bulgaria: Company for international meetings Ltd, pp. 53-59., 7 p.

Mátyás, K., Nagy E., **Bene K.**, Torma P. (2017) „Mapping Seasonal Runoff in Northwestern Hungary” In: Péter, Kalicz; Kamila, Hlavcova; Katalin, Zagyvai-Kiss; Silvia, Kochnova; Patrik, Sleziak; Borbála, Széles; Zoltán, Gribovszki (eds.) HydroCarpath International Conference Catchment Process Regional Hydrology Experiments, Patterns and Predictions: Abstracts of the Conference Wien, Austria: University of Sopron, pp. 29, 1 p.

**Bene, K.**, Koch R., Harmati I. (2015) “Application Of Neural Networks For Predicting Karst Spring Flow In The Aggtelek Region” Catchment processes in regional hydrology: from experiment to modeling in Carpathian drainage basins. Sopron: Nyugat-magyarországi Egyetem Kiadó, *Paper Hydrological*. ISBN: 978-963-334-069-1

**Bene, K.**, Torma P., Keve G., Hajnal G. (2015) “Impact Of Climate Change On The Eger Creek Watershed”, Catchment processes in regional hydrology: from experiment to modeling in Carpathian drainage basins. Sopron: Nyugat-magyarországi Egyetem Kiadó, *Paper Hydrological*. ISBN: 978-963-334-069-1

Keve, G., Hajnal G, **Bene K.**, Torma P. (2014) „Extrapolating flood hazard potential of Eger creek due to climate change” In: Sustainable Regional Development: Landscape, Social, Economic and Educational Challenges Conference Proceedings. Konferencia helye, ideje: Eger, Magyarország, 2014.11.20 Paper et al Eger 2014. 9 p.

Koch E., Szepesházi, R., **Bene, K.** (2013) “Foundation On Weak Soils Using Deep-Mixing” XV. Danube-European Conference on Geotechnical Engineering, 3-4 June 2013, Bratislava, Slovakia, pp. 257-268

Koch, R., **Bene, K.**, Hajnal G. (2012) “Hydrological Characterization of the Aggtelek Karst Springs”, Catchment processes in regional hydrology: from experiment to modeling in Carpathian drainage basins. Sopron: Nyugat-magyarországi Egyetem Kiadó, *Paper Hydrological*. ISBN: 978-963-334-069-1

**Bene, K.**, Koch R. (2010) “Influence of Flood Stages on Levee Stability”, XIV. Danube-European Conference on Geotechnical Engineering, , p. 166

Berge, N.D., Meadows, M.E., Flora, J.R.V., Ray, R.P. and **Bene, K.J.** (2000) "The Use of Landfill Bioreactors to Enhance Waste Degradation," Proceedings, South Carolina Second Water and Environment Symposium, Columbia, SC, Nov. 2000, pp. 35-37.

Ray, R.P. and **Morris, K.B.** (1995). "Automated Laboratory Testing for Soil/Water Characteristic Curves," Unsaturated Soils, Alonso, E.E. and Delage, P., Eds., A.A. Balkema,, Volume 2, pp. 547-552.

**Morris, K.B.**, Gribb, M.M. and Ray, R.P. (1995). "Integrated, Full-Scale Model Validation of Unsaturated Flow Behavior," Unsaturated Soils, Alonso, E.E. and Delage, P., Eds, A.A. Balkema, Volume 1, pp. 399-404.

**Morris, K.B.**, Rogerson, D.C. and Meadows, M.E. (1995). "Characterizing Root Zone Hydraulic Conductivity," Proceedings, ASCE Watershed Management Symposium, July 19-22, San Antonio, TX, pp. 378-387.

**Morris, K.B.**, Meadows, M.E. and Ray, R.P. (1995). "SWMS\_2D Application to a Vegetated Field Site," Proceedings, ASCE International Groundwater Management Symposium, July 19-22, San Antonio, TX, pp. 271-276.

**Morris, K.B.**, Meadows, M.E. and Ray, R.P. (1994). "Experiences with Low-Cost Hydrologic Data Monitoring Systems," presented at the 1994 International Summer Meeting of the American Society of Agricultural Engineers, June 19-22, 1994, Kansas City, MO, Paper No. 942164.

**Morris, K.B.**, Meadows, M.E. and Ray, R.P. (1994). "Automated Measurement of Soil Moisture Hysteresis," presented at the 1994 International Summer Meeting of the American Society of Agricultural Engineers, June 19-22, 1994, Kansas City, MO, Paper No. 942041.

**Morris, K.B.** and Meadows, M.E. (1991). "Channel Routing Effects on Unit Hydrograph Shape," Proceedings, ASCE National Conference on Hydraulic Engineering, isbn 0872628167 July 21-Aug. 2, Nashville, TN, pp. 1096-1101.

## **Kutatási jelentések**

*Hajnal G., Keve G., **Bene K.**, Torma P Az Eger-patak hidrológiai vizsgálata, a felszíni vízkészletek várható változásából adódó módosulások az éghajlatváltozás hatására, (2014)*

**Bene, K.J.** and Gribb, M.M. (1999). "Evaluation of the Soil Leachability Model Using Field Data," Final Report, SCDHEC, Columbia, SC. 58 pp.

**Bene, K.J.** and Gribb, M.M. (1999). "Investigation of the Reduction of Groundwater Pollution at the Naval Weapon Station Charleston," Final Report, Hazardous Waste Management Research Fund, Columbia, SC. 32 pp.

**Bene, K.J.**, Parr, N.B. and Gribb, M.M. (1998). "Development of a Graphical Method for determining Site-Specific Target Levels for Contaminated Soils," Final Report, SCDHEC, Columbia, SC. 48 pp.

**Bene, K.J.** and Meadows, M.E. (1998). "Application of Geostatistics to Vadose Zone Characterization of the Savannah River Site Bamboo Field," Final Report, Volume III, Westinghouse Savannah River Company, Aiken, SC, (final draft).

**Bene, K.J.** and Meadows, M.E. (1998). "Unsaturated-Saturated Flow Processes: Theory, Instrumentation, Testing Methods, and Procedures," Final Report, Volume II, Westinghouse Savannah River Company, Aiken, SC, (final draft).

**Bene, K.J.**, Parr, N.B. and Gribb, M.M. (1997). "Critical Analyses of Hydraulic Parameter Estimation as Stated in the SCDHEC RBCA Guidance Document for Petroleum Releases," Final Report, SCDHEC, Columbia, SC. 25 pp.

Meadows, M.E., Ray, R.P. and **Bene, K.J.** (1997). "Cement Specimen Permeability Tests: Equipment, Methodology, and Results," Final Report, Volume I, Westinghouse Savannah River Company, Aiken, SC, April, 9 pp.

Meadows, M.E., **Morris, K.B.**, and Spearman, W.E. (1992). "Stormwater Management Study for Rawls Creek, Phase II: Strategies," Project Report, Lexington County Dept of Planning and Development, Lexington, SC, 27 pp.

Meadows, M.E., **Morris, K.B.**, and Spearman, W.E. (1992). "Stormwater Management Study for Kinley Creek," Project Report, Lexington County Dept of Planning and Development, Lexington, SC, 36 pp.

Meadows, M.E., **Morris, K.B.**, and Spearman, W.E. (1992). "Stormwater Management Study for Koon Branch, Phase II: Strategies," Project Report, Lexington County Dept of Planning and Development, Lexington, SC, 25 pp.

Meadows, M.E., **Morris, K.B.**, and Spearman, W.E. (1992). "Improved Runoff Estimation Methods and Single Outlet Detention Pond Performance Curves Applicable to Lexington County, SC," Supplemental Report, Lexington County Dept of Planning and Development, Lexington, SC, 150 p.

Meadows, M.E., **Morris, K.B.**, and Spearman, W.E. (1992). "Stormwater Management Study for the City of Aiken: Sand River Drainage Basin," Project Report, Department of Engineering and Public Works, City of Aiken, SC, 38 p.

Meadows, M.E., **Morris, K.B.** and Spearman, W.E. (1991). "Stormwater Management Study for the City of Aiken: Wise Hollow Drainage Basin," Project Report, Department of Engineering and Public Works, City of Aiken, SC, 116 p.

## PREZENTÁCIÓK

*Mátyás, K., **Bene, K.**, "Hydrological modeling of an industrial park in Győr using a Storm Sewer Analysis program", Catchment processes in regional hydrology: from experiment to modeling in Carpathian drainage basins, International Conference, October 29, 2014, Bratislava, Slovakia.*

*Koch Edina, Szepesházi R., **Bene K.** "Foundation On Weak Soils Using Deep-Mixing" XV. Danube-European Conference on Geotechnical Engineering, 3-4 June 2013, Bratislava, Slovakia 257-268*

*Koch, R., **Bene, K.**, Hajnal G. "Hydrological Characterization of the Aggtelek Karst Springs", Catchment processes in regional hydrology: from experiment to modeling in Carpathian drainage basins, International Conference, October 28-30, 2012, Sopron, Hungary.*

**Bene K.J.** "Investigation of the Reduction of Groundwater Pollution at the Naval Weapon Station Charleston," Presented at the South Carolina/Department of Defense Pollution Prevention Alliance McEntire Air National Guard Station, April 27, 1999, Columbia, SC.

**Bene K.J.** and Gribb, M.M. "Analyses of Soil Leachability Model for Predicting Groundwater Contamination from Petroleum-Contaminated Soils," Presented at the First South Carolina Water and Environment Symposium, April 6-7, 1999, Columbia, SC.

**Bene, K.J.**, Ray R. P., Meadows M. E., and Paleologos E. K. "Characterization of a Field Site by Geostatistics," Presented at the Annual Meeting of the Soil Science Society of America, 26-31 October, 1997, Anaheim, California.

**Bene, K.J.**, Ray, R.P, Paleologos, E. K, and Meadows, M.E. "Application of Geostatistics to Site Characterization," Poster presented at the XXII General Assembly of the European Geophysical Society, 21-25 April 1997, Vienna, Austria.

**Bene, K.J.**, Paleologos, E.K. and Meadows, M.E. "Geostatistical Analyses of Laboratory and In-situ Measurements of Saturated Hydraulic Conductivity," Presented at the Southeast Regional Meeting of the Geological Society of America, March 27-28, 1997, Auburn, Alabama.

**Morris, K.B.** "Characteristics of Physical Properties Controlling Ground Water/Surface Water Interaction at a Vegetated Field Site," presented at the Second International Conference on Ground Water Ecology, March 27-30, 1994, Atlanta, GA.