

JOZSEF SZILAGYI

Research Hydrologist/Professor (0.33 FTE)
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RESEARCH INTERESTS

Watershed hydrology; Application of remote sensing and GIS to watershed/regional scale problems in hydrology; Evaporation; Hydrological forecasting

EDUCATION

Ph.D. in Hydrologic Sciences, University of California, Davis (1997)
M. S. in Hydrology, University of New Hampshire (1994)
M. S. in Meteorology with an emphasis in Hydrology, Eotvos Lorand University, Budapest, Hungary (1989).

CURRENT AND PREVIOUS EMPLOYMENT

--Research Hydrologist/Professor, Conservation & Survey Division, School of Natural Resources, University of Nebraska-Lincoln (2012 - to date)
--Research Hydrologist/Associate Professor, Conservation & Survey Division, School of Natural Resources, University of Nebraska-Lincoln (2004 - 2012)
--Visiting Scientist, National Hydrological Forecasting Service, Research Center for Water Resources Development (VITUKI), Budapest, Hungary (2003-2004).
--Visiting Scientist, Water Resources Research Group of the Hungarian Academy of Sciences (2000-2001)
--Research Hydrologist/Assistant Professor, Conservation & Survey Division, Institute of Agriculture & Natural Resources, University of Nebraska-Lincoln (1997-2004)
--Postgraduate Researcher, University of California, Davis, Hydrologic Sciences (1994-1997)
--Research Assistant, Institute for the Study of Earth, Oceans and Space, Complex Systems Research Center, University of New Hampshire (1992-1994)
--Junior Research Associate, National Hydrological Forecasting Service, Research Center for Water Resources Development (VITUKI), Budapest, Hungary (1989-1992).

AWARDS

Doctor of Science Degree of the Hungarian Academy of Sciences, 2005
Janos Bolyai Research Fellowship of the Hungarian Academy of Sciences, 2001
University of California Tuition Fellowship, 1995, 1996
The Alfred Hille Prize of the Hungarian Meteorological Society, 1989.

LANGUAGES

English: fluent; Spanish: basic; Hungarian: fluent.

PUBLICATIONS

Authored Book

Szilagyil, J., Szollosi-Nagy, A., 2010. Recursive Streamflow Forecasting: A State-Space Approach, Taylor & Francis, pp. 212, ISBN-13: 978-0-415-56901-9.

Book Chapters

3/ Szilagyil, J., 2013. Recent updates of the Calibration-Free Evapotranspiration Mapping (CREMAP) method, in

Alexandris, S. & Sticevic, R. (eds.) *Evapotranspiration – An Overview*, INTECH, Rijeka, Croatia, ISBN 980-953-307-541-4, <http://www.intechopen.com/books/evapotranspiration-an-overview/>.

2/ Szilagyi, J., Kovacs, A., Jozsa, J., 2011. A calibration-free evapotranspiration mapping (CREMAP) technique, in Labeledzki, L (ed.) *Evapotranspiration*, INTECH, Rijeka, Croatia, ISBN 978-953-307-251-7, <http://www.intechopen.com/books/show/title/evapotranspiration>.

1/ Szilagyi, J., Balint, G., Csik, A., Gauzer, B., Horoszne-Gulyas, M., 2006. Simulation of the superimposition of floods in the Upper Tisza Region, in "Transboundary Floods: Reducing Risks Through Flood Management", Marsalek, J., Stancalie, G., and Balint, G. (Eds.), NATO Science Series, IV. Earth and Environmental Sciences 72, Springer, Dordrecht, Netherlands.

Online Publication

Summerside, S. and J. Szilagyi, 2001. *Configuration of the water table, circa 1995, 1x2 degree Valentine Quadrangle, Nebraska*, Conservation and Survey Division, University of Nebraska-Lincoln.

Refereed Technical Papers

In English

89/ Szilagyi, J., 2017. Anthropogenic hydrological cycle disturbance at a regional scale: state-wide evapotranspiration trends (1979-2015) across Nebraska, USA, *Journal of Hydrology*, 557, 600-612, doi:10.1016/j.jhydrol.2017.12.062, in press.

88/ Szilagyi, J., 2017. A calibration-free, robust estimation of monthly land surface evapotranspiration rates for continental-scale hydrology, *Hydrology Research*, 49, doi:10.2166/nh.2017.078, in press.

87/ Szilagyi, J., 2017. On the Clark Unit Hydrograph Model of HEC-HMS, *Periodica Polytechnica Civil Engineering*, 2017, 11141, doi:10.3311/PPci.11141.

86/ Crago, R., Qualls, R., Szilagyi, J., Huntington, J., 2017. Reply to comment by Ma and Zhang on ‘‘Rescaling the complementary relationship for land surface evaporation’’, *Water Resources Research*, 53, doi:10.1002/2017WR020892.

85/ Szilagyi, J., 2017. Basic meteorological data derived 30-year normals (1981-2010) of actual evapotranspiration rates in Nebraska, USA, Conservation Bull. 8, Conservation & Survey Division, University of Nebraska-Lincoln, ISBN 1-56161-058-5.

84/ Szilagyi, J., Crago, R., Qualls, R. J., 2017. A calibration-free formulation of the complementary relationship of evaporation for continental-scale hydrology, *Journal of Geophysical Research-Atmospheres*, 122, doi:10.1002/2016JD025611.

83/ Crago, R., Szilagyi, J., Qualls, R. J., Huntington, J., 2016. Rescaling of the complementary relationship for land surface evaporation, *Water Resources Research*, doi:10.1002/2016WR019753.

82/ Szilagyi, J., 2016. Recent trends in land surface evapotranspiration across the contiguous United States, *Journal of Hydrology and Environment Research*, 4(1), 33-40.

81/ Szilagyi, J., Crago, R., Qualls, R., 2016. Testing the generalized complementary relationship of evaporation with continental-scale long-term water-balance data, *Journal of Hydrology*, 540, 914-922.

80/ Ma, N., Szilagyi, J., Niu, G.-Y., Zhang, Y., Zhang, T., Wang, B., Wu, Y., 2016. Evaporation variability of Nam Co Lake in the Tibetan Plateau and its role in recent rapid lake expansion, *Journal of Hydrology*, 537, 27-35.

- 79/ Wang, T., Franz, T., Yue, W., Szilagyi, J., Zlotnik, V., You, J., Chen, X., Shulski, M. D., Young, A., 2016. Feasibility analysis of using inverse modeling for estimating natural groundwater recharge from a large-scale soil moisture monitoring network, *Journal of Hydrology*, 533, 250-265.
- 78/ Kramer, T., Szilagyi, J., Jozsa, J., 2015. Mértékadó árvízszintek: Országos felülvizsgálat után (Revision of nationwide design flood levels), *Mernok Ujsag* 22(1-2), 22-25.
- 77/ Szilagyi, J., 2015. Complementary-relationship-based 30-year normals (1981-2010) of monthly latent heat fluxes across the contiguous United States, *Water Resources Research*, doi:10.1002/2015WR017693.
- 76/ Ma, N., Zhang, Y., Xu, C-Y., Szilagyi, J., 2015. Modeling actual evapotranspiration with routine meteorological variables in the data scarce region of the Tibetan Plateau: comparisons and implications, *Journal of Geophysical Research – Biogeosciences*, 120, 1-20, doi:10.1002/2015JG003006.
- 75/ Szilagyi, J., 2015. Water balance validation of a temperature dependent parameter value of the Priestley-Taylor equation of evapotranspiration, *Journal of Hydrology and Environment Research*, 3(1), 1-5.
- 74/ Szilagyi, J., 2015. Comment on “Revised coefficients for Priestley-Taylor and Makkink-Hansen equations for estimating daily reference evapotranspiration” by N.C. Cristea, S.K. Kampf, and S. J. Burges, published in Journal of Hydrologic Engineering, 18(10), 1289-1300, *Journal of Hydrology and Environment Research*, 3(1), 67-70.
- 73/ Szilagyi, J., 2015. Testing the rationale behind an assumed linear relationship between evapotranspiration and land surface temperature, *Journal of Hydrologic Engineering*, 10.1061/(ASCE)HE.1943-5584.0001091, 04014073.
- 72/ Ma, N., Zhang, Y., Szilagyi, J., Guo, Y., Zhai, J., Gao, H., 2015. Evaluating the complementary relationship of evapotranspiration in the alpine steppe of the Tibetan Plateau, *Water Resources Research*, doi: 10.1002/2014WR015493.
- 71/ Szilagyi, J., Parlange, M. B., Katul, G. G., 2014. Assessment of the Priestley-Taylor parameter value from ERA-Interim global reanalysis data, *Journal of Hydrology and Environment Research*, 2(1), 1-7.
- 70/ Szilagyi, J., 2014. Temperature corrections in the Priestley-Taylor equation of evaporation, *Journal of Hydrology*, 519, 455-464.
- 69/ Rossman, N. R., Zlotnik, V. A., Rowe, C. M., Szilagyi, J., 2014. Vadose zone lag time and potential 21st century climate change effects on spatially distributed groundwater recharge rates in the semi-arid Nebraska Sand Hills, *Journal of Hydrology*, 519, 656-669.
- 68/ Szilagyi, J., 2014. MODIS-aided water balance investigations in the Republican River basin, USA, *Periodica Polytechnica-Civil Engineering*, 58(1), 33-46.
- 67/ Szilagyi, J., Schepers, A., 2014. Coupled heat and vapor transport: the thermostat effect of a freely evaporating land surface, *Geophysical Research Letters*, 41(2), 435-441.
- 66/ Gates, J. B., Steele, G. V., Nasta, P., Szilagyi, J., 2014. Lithologic influences on groundwater recharge through incised glacial till from profile to regional scales: Evidence from glaciated Nebraska, *Water Resources Research*, 50, 1-16, doi:10.1002/2013WR014073.
- 65/ Szilagyi, J., Laurinyecz, P., 2014. Accounting for back-water effects in flow routing by the Discrete Linear Cascade Model, *Journal of Hydrologic Engineering*, 19(1), 69-77, doi:10.1061/(ASCE)HE.1943-5584.0000771.
- 64/ Szilagyi, J., 2013. Application of MODIS-based evapotranspiration rates in runoff modeling: a case study in Nebraska, USA, *Open Journal of Modern Hydrology*, 3(4), 172-178.

- 63/ McMahon, T. A., Peel, M. C., Szilagyi, J., 2013. Comment on the application of the Szilagyi–Jozsa advection–aridity model for estimating actual terrestrial evapotranspiration in “Estimating actual, potential, reference crop and pan evaporation using standard meteorological data: a pragmatic synthesis” by McMahon et al. (2013), *Hydrology and Earth System Sciences*, 17, 4865-4867.
- 62/ Gribovski, Z., Kalicz, P., Szilagyi, J., 2013. Does the accuracy of fine-scale water level measurements by vented pressure transducers permit for evapotranspiration estimation?, *Journal of Hydrology*, 488, 166-169.
- 61/ Szilagyi J., Zlotnik, V., Jozsa, J. 2013. Net recharge versus depth to groundwater relationship in the Platte River Valley of Nebraska, USA, *Ground Water*, 51(6), 945-951, doi:10.1111/gwat.12007.
- 60/ Szilagyi J., Jozsa, J. 2013. MODIS-aided statewide net groundwater-recharge estimation in Nebraska, *Ground Water*, 51(5), 735-744, doi:10.1111/j.1745-6584.2012.01019.x.
- 59/ Szilagyi, J., 2012. Comment on ‘Assessing interannual variability of evapotranspiration at the catchment scale using satellite-based evapotranspiration data sets’ by Cheng et al., *Water Resources Research*, 48, W03801, doi:10.1029/2011WR011538.
- 58/ Szilagyi, J., Kovacs, A., Jozsa, J., 2012. Estimation of spatially distributed mean annual recharge rates in the Danube-Tisza interfluvial region of Hungary, *Journal of Hydrology and Hydromechanics*, 60(1), 64-72.
- 57/ Gribovski, Z., Kalicz, P., Szilagyi, J., 2011. Numerical validation of a diel streamflow-pattern based evapotranspiration estimation method, *Acta Silvatica et Lignaria Hungarica*, 7, 63-74.
- 56/ Szilagyi, J., Gribovski, Z., Kalicz, P., 2011. Comment on „Interference of river level changes on riparian zone evapotranspiration estimates from diurnal groundwater level fluctuations” by Zhu et al., *Journal of Hydrology*, 409, 578-579.
- 55/ Szilagyi, J., Zlotnik, V., Gates, J., Jozsa, J., 2011. Mapping mean annual groundwater recharge in the Nebraska Sand Hills, USA, *Hydrogeology Journal*, 19(8), 1503-1513, doi:10.1007/s10040-011-0769-3.
- 54/ Huntington, J., Szilagyi, J., Tyler, S., Pohll, G., 2011. Evaluating the Complementary Relationship for estimating evapotranspiration from arid shrublands, *Water Resources Research*, 47, W05533, doi:10.1029/W2010WR009874.
- 53/ Szilagyi, J., Kovacs, A., 2011. A calibration-free evapotranspiration mapping technique for spatially-distributed regional-scale hydrologic modeling, *Journal of Hydrology and Hydromechanics*, 59(2), 118-130.
- 52/ Szilagyi, J., Kovacs, A., 2010. Complementary-relationship-based evapotranspiration mapping (CREMAP) technique for Hungary, *Periodica Polytechnica Civil Engineering*, 54(2), 95-100.
- 51/ Szilagyi, J., 2010. Comment on ‘Estimation of the water balance using observed soil water in the Nebraska Sandhills’ by Sridhar, V. and Hubbard, K. G., *Journal of Hydrologic Engineering*, 15(12), 1075.
- 50/ Gribovski, Z., Szilagyi, J., Kalicz, P., 2010. Diurnal fluctuations in shallow groundwater levels and in streamflow rates and their interpretation – A review, *Journal of Hydrology*, 385, 371-383.
- 49/ Szilagyi, J., 2009. Comment on ‘Power-law catchment-scale recessions arising from heterogeneous linear small-scale dynamics’ by Harman, C. J., Sivapalan, M., and Kumar, P., *Water Resources Research*, 45, W12601, doi:10.1029/2009WR008321.

- 48/ Szilagyi, J., Jozsa, J., 2009. Complementary relationship of evaporation and the mean annual water-energy balance, *Water Resources Research*, 45, W09201, doi:10.1029/2009WR008129.
- 47/ Szilagyi, J., Jozsa, J., 2009. Analytical solution of the coupled 2-D turbulent heat and vapor transport equations and the complementary relationship of evaporation, *Journal of Hydrology*, 372, 61-67.
- 46/ Szilagyi, J., Hobbins, M., Jozsa, J., 2009. A modified Advection-Aridity model of evapotranspiration, *Journal of Hydrologic Engineering*, 14(6), 569-574.
- 45/ Szilagyi, J., Jozsa, J., 2009. Estimating spatially distributed monthly evapotranspiration rates by linear transformations of MODIS daytime land surface temperature data, *Hydrology and Earth System Sciences*, 13(5), 629-637.
- 44/ Szilagyi, J., Jozsa, J., 2009. An evaporation estimation method based on the 2-D turbulent heat and vapor transport equations, *Journal of Geophysical Research-Atmospheres*, 114: D06101, doi:10.1029/2008JD010772.
- 43/ Gribovszki, Z., Kalicz, P., Kucsara, M., Szilagyi, J., Vig, P., 2008. Evapotranspiration calculation on the basis of the riparian zone water balance, *Acta Silvatica et Lignaria Hungarica*, 4, 95-106.
- 42/ Szilagyi, J., Jozsa, J., 2008. New findings about the Complementary Relationship-based evaporation estimation methods, *Journal of Hydrology*, 354: 171-186.
- 41/ Szilagyi, J., Pinter, N., Venczel, R., 2008. Application of a routing model for detecting channel flow changes with minimal data, *Journal of Hydrologic Engineering*, 13(6): 521-526.
- 40/ Szilagyi, J., Gribovszki, Z., Kalicz, P., Kucsara, M., 2008. On diurnal riparian zone groundwater-level and streamflow fluctuations, *Journal of Hydrology*, 349(1-2): 1-5.
- 39/ Gribovszki, Z., Kalicz, P., Szilagyi, J., Kucsara, M., 2008. Riparian zone evapotranspiration from diurnal groundwater-level fluctuations, *Journal of Hydrology*, 349(1-2): 6-17.
- 38/ Szilagyi, J., 2008. Comment on “Comparison of 15 evaporation models applied to a small mountain lake in the northeastern USA” by D. O. Rosenberry, T. C. Winter, D. C. Buso, and G. E. Likens, *Journal of Hydrology* 348(3-4): 564-565.
- 37/ Szilagyi, J., 2007. Analysis of the nonlinearity in the runoff response to precipitation through numerical modeling, *Journal of Hydrology*, 337, 391-401.
- 36/ Szilagyi, J., Gribovszki, Z., and Kalicz, P., 2007. Estimation of catchment-scale evapotranspiration from baseflow recession data: Numerical model and practical application results, *Journal of Hydrology*, 336, 206-217.
- 35/ Szilagyi, J., 2007. On the inherent asymmetric nature of the complementary relationship of evaporation, *Geophysical Research Letters*, 34, L02405.
- 34/ Szilagyi, J., 2006. Comment on “Evaluation of the impact of groundwater irrigation on streamflow in Nebraska” by F. Wen and X. Chen, *Journal of Hydrology*, 331: 605.
- 33/ Szilagyi, J., 2006. Comment on “Using numerical modelling to evaluate the capillary fringe groundwater ridging hypothesis of streamflow generation” by H. L. Cloke, M. G. Anderson, J. J. McDonnell, and J. P. Renaud, *Journal of Hydrology*, 329: 724-729.
- 32/ Szilagyi, J., 2006. Discrete state-space approximation of the continuous Kalinin-Milyukov-Nash Cascade of

- noninteger storage elements, *Journal of Hydrology*, 328: 132-140.
- 31/ Szilagyi, J., Parlange, M. B., and Balint, G., 2006. Assessing stream-aquifer interactions through inverse modeling of flow routing, *Journal of Hydrology*, 327: 208-218.
- 30/ Szilagyi, J., Balint, G., Csik, A., 2006. A hybrid, Markov chain-based model for daily streamflow generation at multiple catchment sites, *Journal of Hydrologic Engineering*, 11(3): 245-256.
- 29/ Szilagyi, J., Balint, G., Gauzer, B., and Bartha, P., 2005. Flow routing with unknown rating curves using a state-space reservoir-cascade-type formulation, *Journal of Hydrology*, 311: 219-229.
- 28/ Szilagyi, J., Harvey, F. E., and Ayers, J., 2005. Regional estimation of total recharge to ground water in Nebraska, *Ground Water*, 43(1): 63-69.
- 27/ Szilagyi, J., 2004. Heuristic continuous baseflow separation, *Journal of Hydrologic Engineering*, 9(4): 1-8.
- 26/ Szilagyi, J., 2004. Vadose zone influences on aquifer drainage, *Journal of Hydrology*, 286: 78-86.
- 25/ Szilagyi, J., 2004. Accounting for stream-aquifer interactions in the state-space discretization of the KMN-cascade for streamflow forecasting, *Journal of Hydrologic Engineering*, 9(2): 135-143.
- 24/ Szilagyi, J., 2004. Comment on "A reappraisal of the Kalman filtering technique as applied in river flow forecasting by M. Ahsan and K. M. O'Connor", *Journal of Hydrology*, 285: 286-289.
- 23/ Szilagyi, J., 2003. State-space discretization of the KMN-cascade in a sample-data system framework for streamflow forecasting, *Journal of Hydrologic Engineering*, 8(6): 339-347.
- 22/ Szilagyi, J., 2003. Sensitivity analysis of aquifer parameter estimations based on the Laplace-equation with linearized boundary conditions, *Water Resources Research*, 39(6): art.# 1156.
- 21/ Szilagyi, J., Harvey, E. F., and Ayers, J., 2003. Regional estimation of base recharge to ground water using water balance and a base-flow index, *Ground Water*, 41(4): 504-513.
- 20/ Szilagyi, J., 2002. Comment on "The hydrology and hydrometeorology of extreme floods in the Great Plains of Eastern Nebraska" by Y. Zhang, J. A. Smith, and M. L. Baeck, *Advances in Water Resources*, 25(6): 701-702.
- 19/ Szilagyi, J., 2002. Vegetation indices to aid areal evapotranspiration estimations, *Journal of Hydrologic Engineering*, 7(5): 368-372.
- 18/ Szilagyi, J., M. B. Parlange, J. A. Patz and T. K. Graczyk, 2002. Sensitivity of watershed runoff under humid conditions to potential climate variations, *Journal of Environmental Engineering*, 128(7): 635-642.
- 17/ Szilagyi, J., Katul, G. G. and Parlange, M. B., 2001. Evapotranspiration intensifies over the conterminous United States, *Journal of Water Resources Planning and Management*, 127(6): 354-362.
- 16/ Parlange, J. Y., Stagnitti, F., Heilig, A., Szilagyi, J., Parlange, M. B., Steenhuis, T. S., Hogarth, W. L., Barry, D. A., and Li, L., 2001. Sudden drawdown and drainage of a horizontal aquifer, *Water Resources Research*, 37(8): 2097-2101.
- 15/ Szilagyi, J., 2001. Modeled areal evaporation trends over the conterminous United States, *Journal of Irrigation and Drainage Engineering*, 127(4): 196-200.
- 14/ Szilagyi, J., 2001. On Bouchet's complementary hypothesis, *Journal of Hydrology*, 146: 155-158.

- 13/ Szilagyi, J., 2001. Identifying the cause of declining flows in the Republican River, USA, *Journal of Water Resources Planning and Management*, 127(4): 244-253.
- 12/ Szilagyi, J., 2000. Can a vegetation index be indicative of areal transpiration?, *Ecological Modelling*, 127: 65-79.
- 11/ Szilagyi, J., 1999. Streamflow depletion investigations in the Republican River basin: Colorado, Nebraska, and Kansas, *Journal of Environmental Systems*, 27(3): 251-263.
- 10/ Szilagyi, J. and M. B. Parlange, 1999. Defining watershed-scale evaporation using a Normalized Difference Vegetation Index, *Journal of the American Water Resources Association*, 35(5): 1245-1255.
- 9/ Szilagyi, J. and M. B. Parlange, 1999. A geomorphology-based semi-distributed watershed model, *Advances in Water Resources*, 23: 177-187.
- 8/ Szilagyi, J., 1999. On the use of semi-logarithmic plots for baseflow separation, *Ground Water*, 37(5): 660-662.
- 7/ Szilagyi, J., M. B. Parlange, G. G. Katul, and J. D. Albertson, 1999. An objective method for determining principal time scales of coherent eddy structures using orthonormal wavelets, *Advances in Water Resources*, 22(6): 561-566.
- 6/ Szilagyi, J., M. B. Parlange and J. D. Albertson, 1998. Recession flow analysis for aquifer parameter determination, *Water Resources Research*, 34(7): 1,851-1,857.
- 5/ Szilagyi, J., M. B. Parlange, D. C. Rundquist, and D. C. Gosselin, 1998. NDVI relationship to monthly evaporation, *Geophysical Research Letters*, 25(10): 1,753-1,756.
- 4/ Szilagyi, J. and M. B. Parlange, 1998. Baseflow separation based on analytical solutions of the Boussinesq equation, *Journal of Hydrology*, 204: 251-260.
- 3/ Szilagyi, J. and C. J. Vorosmarty, 1997. Water-balance modeling in a changing environment: reductions in unconfined aquifer levels in the area between the Danube and Tisza rivers in Hungary, *Journal of Hydrology and Hydromechanics*, 45: 348-364.
- 2/ Szilagyi, J., G. G. Katul, M. B. Parlange, J. D. Albertson and A. T. Cahill, 1996. The local effect of intermittency on the inertial subrange energy spectrum of the atmospheric surface layer, *Boundary Layer Meteorology*, 79(1-2): 35-50.
- 1/ Szilagyi, J., 1992. Why can the weighting parameter of the Muskingum channel routing method be negative?, *Journal of Hydrology*, 138: 145-151.

In Hungarian

- 15/ Kramer, T., Szilagyi, J., Jozsa, J., 2015. Mertekeado arvizszintek orszagos felulvizsgalat utan (Nationwide reassessment of design flood levels in Hungary), *Mernokujtag*, 22(1-2), 22-24.
- 14/ Laurinyecz P., Szilagyi J., 2012. A diszkrét lineáris kaszkádmódel kiterjesztése visszaduzzasztott folyószakaszokra, *Hidrologiai Kozlony*, 92(3), 47-54.
- 13/ Gribovszki Z., Kalicz P., Szilagyi J., 2010. Talajviz-evapotranszspiracio szamitasa a vizhozamok napi periodusu ingadozasa alapján (A new groundwater-evapotranspiration estimation method from diurnal changes in stream discharge), *Hidrologiai Kozlony*, 90(5), 19-28.

12/ Kovacs A., Szilagyai, J., 2010. A Balaton parolgasi ertekeinek varhato idobeli valtozasa (Expected future trends in the evaporation rate of Lake Balaton in Hungary), *Hidrologiai Kozlony*, 90(1), 15-18.

11/ Kovacs A., Szilagyai, J., 2009. Parolgaszamitasi vizsgalatok hazai nagytavainkon II (Estimating evaporation of shallow great lakes of Hungary, II), *Hidrologiai Kozlony*, 89(2), 51-56.

10/ Kovacs A., Szilagyai, J., 2009. Parolgaszamitasi vizsgalatok hazai nagytavainkon I (Estimating evaporation of shallow great lakes of Hungary, I), *Hidrologiai Kozlony*, 89(2), 47-50.

9/ Gribovszki Z., Kalicz P., Szilagyai J., 2009. Napi periodusu valtozas a hidrologiai jellemzokben (Diurnal changes in hydrological variables), *Hidrologiai Kozlony*, 89(2), 23-37.

8/ Gribovszki, Z., Kalicz, P., Szilagyai, J., Kucsara, M., 2008. Vizfolyas-menti teruletek evapotranszspiraciojanak becslese a talajvizszintek napi periodusu valtozasa alapjan (Estimating riparian evapotranspiration from diurnal changes in the groundwater), *Hidrologiai Kozlony*, 88(4): 5-17.

7/ Szilagyai, J., Jozsa, J., 2008. Klimavaltozas es a viz korforgasa (Climate change and the water cycle), *Magyar Tudomany*, 2008(6): 698-703.

6/ Szilagyai, J., 2007. Vizallasejrejelzesek pontositasa a Jones-formula alkalmazasaval (Improving streamflow forecast accuracy with the help of the Jones formula), *Vizugyi Kozlonyek*, 2004(3).

5/ Szilagyai, J., 2005. A Diszkret Linearis Kaszkad Modell kiterjesztese nemegesz szamu tarozokra (Generalization of the Discrete Linear Cascade Model for noninteger number of storage elements), *Hidrologiai Kozlony*, 85(1): 37-41.

4/ Szilagyai, J. and C. J. Vorosmarty, 1993. A Duna-Tisza kozi talajvizszint sullyedések modellezése (Modeling groundwater subsidence in the area between the Danube and Tisza Rivers), *Vizugyi Kozlonyek*, 75(3): 280-294.

3/ Szilagyai, J., 1991. Egyujj, adaptiv, sztochasztikus vizallasejrejelzo modszer – A mozgo-ablak eljárás (A new adaptive, stochastic method for real time river forecasting -The introduction of the Moving Window Model), *Vizugyi Kozlonyek*, 74(1): 91-104.

2/ Szilagyai, J., 1991. A Muskingum-modszer ellentmondasainak vizgalata (Solving the contradictions of the Muskingum-method), *Vizugyi Kozlonyek*, 73(1): 73-80.

1/ Szilagyai, J., 1989. A klimavaltozas hatasa egy vizhasznositasu tarozo teljesitokepessegi gorbeire (Climate change effects on the performance of a reservoir), *Vizugyi Kozlonyek*, 71(2): 322-331.

Non-refereed Papers

4/ Kramer, T., Jozsa, J., Szilagyai, J., 2015. Design flood levels, a state-wise reassessment (in Hungarian), *Mernokajsag*, 22(1-2), 22-24.

3/ Szilagyai J., 2012. Parolgasmeres muholddal es lavorral (Measuring evaporation by satellites and wash bowls), *Elet es Tudomany*, 2012/26, 806-809.

2/ Szilagyai, J., 2007. Hungarian national report on IAHS: 2003-2006, *Acta Geodaetica et Geophysica Hungarica*, 42(2): 227-233.

1/ Szilagyai, J., 2007. Tokai to task, *New Scientist*, 195(2612), 23.

PROFESSIONAL EXPERIENCE

American Geophysical Union (1997 -)

European Geophysical Union (2003 -)
Hydrological Society of Hungary (1991 -)
International Association of Scientific Hydrology, National Representative for Hungary (2007 - 2012)
Associate editor of the Journal of Hydrology (2005 - 2007)
Associate editor of Water Resources Research (2008 - 2009)
Public body membership of the Hungarian Academy of Sciences (2004 -)
President of the Hydrological Interdepartmental Committee, Hungarian Academy of Sciences (2011 - 2015)

GRANTS

7/ Accounting for surface inhomogeneities in evaporation mapping, Hungarian Scientific Research Fund, 2011-2013, \$44,000

6/ ET mapping at 1-km resolution scale, Hungarian Scientific Research Fund, 2009-2011, \$22,000

5/ Estimation of long-term evaporation rates from large lakes of Hungary under climate change scenarios and their comparison with historical estimates, as part of the European Union's "Climate Change and Variability: Impact on Central and Eastern Europe (CLAVIER)" project (with a total budget of \$2.5million), 2006-2009, \$80,000

4/ A new technique for mapping recharge fluxes to groundwater at a regional scale, National Science Foundation, 2003, \$15,120

3/ Equipment grant for modeling subsurface unsaturated/saturated zone interactions, University of Nebraska Water Center, 2002, \$11,320

2/ Mapping groundwater recharge in Nebraska, Research Council of the University of Nebraska, 2002, \$3,000

1/ Modeling capture zones in wellhead protection areas, Nebraska Department of Environmental Quality, 1999-2000, \$25,241.

TEACHING

University of Nebraska:

Hydrology (Undergrad/Grad), Dept. Civil Eng., course # 353/853, Fall/1999

Introduction to Water Resources Engineering (Undergrad), Laboratory, Dept. Civil Eng. Course # 352, Spring/1999, 2000.

Research Center for Water Resources Development (VITUKI):

Training course for Chinese hydro-meteorological and flood defense experts, November, 2004

UNESCO-IHE (Institute of Water Education, Delft, Netherlands):

MSc course (together with Andras Szollosi-Nagy of UNESCO-IHE): 'Recursive Hydrological Forecasting', invited lecturer, 2010

STUDENTS ADVISED

-- 2003: Paul Koester – "Temporal Soil Water Loss Estimation Using Limited Climatic Data in Box Butte County, Nebraska", MS thesis, University of Nebraska