C U R R I C U L U M V I T A E

SOLOMATINE, Dimitri P.

Nationality Dutch and Russian
Date of birth May 17, 1956
Place of birth Moscow, Russia

Present employer and position

UNESCO-IHE Institute for Water Education,
P.O. Box 3015, 2601 DA Delft, The Netherlands

Professor of Hydroinformatics, Head of the Chair Group, Msc., Ph.D.

Qualifications

Research and development in the area of hydroinformatics, information and communication technology, water resources modelling and management, multi-objective and global optimization, systems engineering, computational intelligence, decision support, uncertainty, knowledge management, software development (1978 – present).

Teaching: hydroinformatics, information technology, information and knowledge systems, data-driven modelling, optimisation, computational intelligence, computer science in post-graduate programmes and capacity building training courses (1987 – present).

Education

Moscow Aviation Institute (University) (1973-1979), Faculty of the Information, Management and Control Systems, specialization in Information Systems, Control and Systems Engineering, MSc. degree, 1979.

Ph.D degree in Management and Systems Sciences, Institute for Systems Studies, Russian Academy of Sciences, 1984.

Languages

English (excellent), Dutch (good), Russian (mother tongue).

Publications

180+ papers (80+ in peer-reviewed journals) on various aspects of hydroinformatics, modelling, uncertainty, computational intelligence, optimization, model applications in water management, information systems, Internet-based knowledge delivery, technology assessment, water resources, algorithmic realization of computer-based modelling, decision support systems, education and training.

Editorships, organization of events, awards

Associate Editor, Journal of Hydroinformatics.

Associate Editor, Hydrology and Earth System Sciences Journal (HESS).

Co-editor, Volume "Hydroinformatics in practice: computational intelligence and technological developments in water applications" (*Springer,* 2008).

Co-editor, Special Issue "Data Driven Modelling and Evolutionary Optimization for River Basin Management", Journal of Hydroinformatics, 2008.

Co-editor, Special Issue "Data-driven approaches, optimization and model integration: hydrological applications", Hydrological Science Journal, 2007.

Co-editor, Special Issue "Hydroinformatics: computational intelligence and technological developments in water science applications", Hydrology and Earth Systems Sciences, 2007.

Co-editor, Special Issue "Computational Intelligence in Earth and Environmental Sciences", Neural Networks Journal, May 2007.

Co-editor, Special Issue "Earth Sciences and Environmental Applications of Computational Intelligence", Neural Networks Journal, March 2006.

Member of the International technical committee of the International Conference on Hydroinformatics, 1996, 1998, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014.

Co-convener of the Special session "Data-driven and Computational Intelligence Methods in Flood Forecasting", at the European Geosciences Union (EGU) General Assembly, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015.

Co-convener of the Special session "Earth Sciences and Environmental Applications of Computational Intelligence", World Congress of Computational Intelligence, July 2008, Hong-Kong, China.

Co-convener of the Special session "Earth Sciences and Environmental Applications of Computational Intelligence", Int. Joint Conf. on Neural Networks, July 2007, Orlando, USA.

Co-convener of the Special session "Earth Sciences and Environmental Applications of Computational Intelligence", World Congress of Computational Intelligence, July 2006, Vancouver, Canada.

Co-convener of the Special session "Applications of Learning and Data-Driven

Methods to Earth Sciences and Climate Modeling", International Joint Conference on Neural Networks, July 2005, Montreal, Canada.

Organiser of the Symposium "Computational intelligence in water and environment", IEEE Computational Intelligence Society (Benelux Chapter) and the Belgian-Dutch Society of Ecological Modelling, December 2006, Delft.

Organiser of the Symposium "Data-driven methods in civil engineering", Delft Cluster Research Programme, April 2002, Delft.

Reviewer of international peer-reviewed journals: Journal of Hydroinformatics, Hydrological Sciences Journal, Hydrological Processes, Journal of Hydrology, Advances in Water Resources, Computers & Geosciences, Environmental Modelling & Software, Neurocomputing, Water Resources, Water Resources Management, Water Resources Research, ASCE Journal of Water Resources Planning and Management, and others.

Reviewer of the research proposals for the Dutch Foundation of Applied Sciences (STW) and Danish Ministry for Foreign Affairs.

"Groundwater Science and Engineering Award" for the co-authored paper at the International Symposium on Groundwater, May 2000, Saitama, Japan.

Fellowships of the State Committee of Science and Technology for visiting the International Institute for Applied Systems Analysis, Vienna, Austria, 1984, 1985.

Honorary Diploma of the State Committee of Science and Technology "Best in Profession", 1982.

Honorary Diplomas at the School Olympiads in mathematics and physics at Moscow University and Moscow Institute of Physics and Technology, 1972-1973.

Professional affiliations

Chairman, Sub-division on Hydroinformatics, European Geosciences Union.

Member of the IEEE Computational Intelligence Society.

Member of the International Association of Hydraulic Research and Engineering (IAHR).

Member of the International Neural Networks Society, SIG "Computational intelligence in earth and environmental sciences".

PhD Students Supervision

Slavco Velickov.	Supervisor. Defended in May 2005.
Biswa Bhattacharya.	Supervisor. Defended in May 2006.

Durga Lal Shrestha.	Supervisor and co-promoter. Defended in 2009.
Gerald Corzo.	Supervisor and promoter. Defended in 2009.
Wilmer Barreto.	Co-supervisor and co-promoter. Defended in 2012.
Michael Siek.	Supervisor and promoter. Defended in 2012.
Adrian Almoradie	Promoter. Planned completion 2014.
Blagoj Delipetrev	Promoter. Planned completion 2015.
Marmar Badr	Co-Promoter. Planned completion 2015.
Anuar Ali	Promoter. Planned completion 2015.

MSc Students Supervision

1980 – supervision of 50+ Masters students.

Experience record

1990- International Institute for Infrastructural, Hydraulic and Environmental Engineering (IHE), currently UNESCO-IHE Institute for Water Education, Delft, The Netherlands
Description of work: Professor in Hydroinformatics, Head of Core (Chair). Research in hydroinformatics, computational intelligence, software engineering, information technology, computer sciences and optimization; information systems and knowledge management. Lecturing in Masters and PhD Programmes. Participation in training and capacity building projects abroad.

Research and development projects:

EU research project "Integrated flood risk analysis and management methodologies (FLOODsite)" (2004-2008), Task project manager and principal researcher (managed turnover € 450 000)

Delft Cluster project "Safety from flooding (veiligheid tegen overstromen)" (2005-2009), Workpackage project manager and principal researcher (managed turnover € 400 000)

Delft Cluster project "Data mining, knowledge discovery and data-driven modelling, with applications in civil engineering" (2000-2003), project manager and principal researcher (managed turnover € 800 000)

Delft Cluster project "Communities of Practice" (2000-2002)

STOWA (Dutch Foundation for applied research in water management) project "Use of neural networks and fuzzy logic for water management", 1999-2002.

Dutch Ministry of Public Works project "Investigation of applicability of data mining techniques for predicting surge water levels" (1999)

EU project "Electronic market and trading of modelling services and assets for

engineering small and medium enterprises and institutes (ELTRAMOS)", 1998-2000.

EU project "Telematics assisted handling of flood emergencies in urban areas (TELEFLEUR)", 1998-2000.

Staring Centrum (Institute for research in rural areas, Dutch Ministry of agriculture, Nature Management and Fisheries) project "Computer-supported water management (COW)", 1998-1999.

Several research projects supported by the internal research fund of UNESCO-IHE (2001-).

Missions abroad since 1994:

Lecturing in short courses in Colombia (2009, 2015), China (2014), Iran (2008), Brazil and Paraguay (2007).

Acquisition mission to Chinese Universities and Water Boards, 6 cities, June 2006.

Final evaluation of the Technical Assistance component of the National Hydrology Information System Project (World Bank project). Mission to eight Indian states, February – March 2003.

Capacity building two-week mission to Indonesia: improving the teaching programme, management information process, databases and network facilities in the Bipowered/Sp-1 training programme of the Ministry of Public Works in Bandung, November 1999.

Organization of and lecturing in the seminar "Information technology and modelling of water related assets" in the framework of the UNDP Aral Sea Programme, Uzbekistan, 1995.

Feasibility study 3-week mission to Kazakhstan, Uzbekistan and Turkmenistan in the framework of UNDP Aral Sea Program, November - December 1994.

1989 - 1990 Delft University of Technology, Faculty of Mathematics and Informatics
Description of work: research fellow; participation in research and development projects in the interests of the Dutch Ministry of Environment, European Community and European Space Agency.

1988 - 1989 Research and development company I.V.K. (Member of Board), Moscow, Russia (part-time). Description of work: member of board, system analyst, project manager, consultant; participation in system integration and software related projects for various organizations, including Hewlett-Packard and Montedison.

1979 - 1989 Institute for Systems Studies, Russian Academy of Sciences, Moscow, Russia. Description of work: engineer, junior researcher, senior researcher (since 1986) in the Department of management and informatisation. Research and development in modelling, systems sciences, decision support. Participation in projects of the Council of Ministers, State Committee of Science and Technology and Moscow municipality aimed at development of MIS and decision support systems for management at regional and national level.

1974 – 1979 Research assistant, computer programmer at the Faculty.

LIST OF PUBLICATIONS (200+)

Books

D.P. Solomatine *Mathematical and program realization of interactive structural modelling system*. VNIISI, Russian Academy of Sciences, Moscow, 1982 (in Russian).

PhD Thesis

D.P. Solomatine *Development and application of the interactive system for structural modelling in management*. PhD Thesis, Institute for Systems Studies, Russian Academy of Sciences, Moscow, 1984 (in Russian).

Edited volumes, special journal issues

1. *Practical Hydroinformatics: computational intelligence and technological developments in water applications*, Edited Volume by *Springer* (B. Abrahart, L. See, D.P. Solomatine, eds.), 2008.
2. *Uncertainty in flood risk management*. Special Issue of the *J. River Basin Management*, 2008, vol. 6(2) (J. Hall, D.P. Solomatine, eds).
3. *Data Driven Modelling and Evolutionary Optimization for River Basin Management*. Special Issue of the *Journal of Hydroinformatics*, 2008, vol 10(1) (A. Ostfeld, D.P. Solomatine, eds).
4. *Hydroinformatics: computational intelligence and technological developments in hydrologic applications*. Special Issue of the *Hydrological Sciences Journal*, 2007 (B. Abrahart, L. See, D.P. Solomatine, E. Toth, eds).
5. *Data-driven approaches, optimization and model integration: hydrological applications*, Special Issue of the *Hydrology and Earth Systems Sciences,* 2007 (B. Abrahart, L. See, D.P. Solomatine, E. Toth, eds).
6. *Computational Intelligence in Earth and Environmental Sciences*. Special Issue of the *Neural Networks Journal*, 2007, vol. 20(4), (V. Cherkassky, W. Hsieh, V. Krasnopolsky, D.P. Solomatine, J. Valdes, eds.).
7. *Earth Sciences and Environmental Applications of Computational Intelligence*. Special Issue of the *Neural Networks Journal*, 2006, vol. 19(2), (V. Cherkassky, V. Krasnopolsky, D.P. Solomatine, J. Valdes, eds.).

Papers in peer-reviewed journals (81 + submitted)

1. Mazzoleni, M., Alfonso, L., Chacon-Hurtado, J., Solomatine, D. (2015). Assimilating uncertain, dynamic and intermittent streamflow observations in hydrological models. *Adv. in Water Res.*, 83, 323-339 (Online on September 1, 2015). doi:10.1016/j.advwatres.2015.07.004.
2. M. Mukolwe, K. Yan, G. Di Baldassarre, D.P. Solomatine (2015). Testing new sources of topographic data for flood propagation modelling under structural, parameter and observation uncertainty. *Hydrol. Sci. J.* doi: 10.1080/02626667.2015.1019507.
3. N. Dogulu, P. López López, D. P. Solomatine, A. H. Weerts, and D. L. Shrestha (2015). Estimation of predictive hydrologic uncertainty using quantile regression and UNEEC methods and their comparison on contrasting catchments, *Hydrol. Earth Syst. Sci.*, 19, 3181-3201. doi:10.5194/hess-19-3181-2015.
4. Y.A. Bayissa, S.A. Moges, Y. Xuan, S.J. van Andel, S. Maskey, D.P. Solomatine, A. van Griensven, T. Tadesse (2015). Spatio-temporal assessment of meteorological drought under the influence of varying record length: the case of Upper Blue Nile Basin, Ethiopia, *Hydrological Sci. J.*, doi:10.1080/02626667.2015.1032291.
5. K. Yan, G. Di Baldassarre, D.P. Solomatine, G. J-P. Schumann (2015). A review of low-cost space-borne data for hydraulic modelling: topography, flood extent and water level. *Hydrological Processes*. doi:10.1002/hyp.10449.
6. H.R. Maier, Z. Kapelan, J. Kasprzyk, J. Kollat, L.S. Matott, M.C. Cunha, G.C. Dandy, M.S. Gibbs, E. Keedwell, A. Marchi, A. Ostfeld, D. Savic, D.P. Solomatine, J.A. Vrugt, A.C. Zecchin, B.S. Minsker, E.J. Barbour, G. Kuczera, F. Pasha, A. Castelletti, M. Giuliani, P.M. Reed (2014). Evolutionary algorithms and other metaheuristics in water resources: Current status, research challenges and future directions, *Environmental Modelling & Software*, 62, 271-299 (doi:10.1016/j.envsoft.2014.09.013).
7. López López, P.; Verkade, J. S.; Weerts, A. H.; Solomatine, D. P. (2014). Alternative configurations of quantile regression for estimating predictive uncertainty in water level forecasts for the upper Severn River: a comparison. *Hydrol. Earth Syst. Sci.*, 18 (9), 3411-3428. doi:10.5194/hess-18-3411-2014.
8. Shrestha, D.L., Kayastha, N., Solomatine, D., Price, R. (2014). Encapsulation of parametric uncertainty statistics by various predictive machine learning models: MLUE method. *J Hydroinformatics*, 16 (1), 95-113.
9. Nasseri, M., Zahraie, B., Ajami, N.K., Solomatine, D.P. (2014). Monthly water balance modeling: Probabilistic, possibilistic and hybrid methods for model combination and ensemble simulation. *Journal of Hydrology*, 511, 675-691.
10. Delipetrev B., Jonoski A., Solomatine D.P. (2014). Development of a web application for water resources based on open source software, *Computers & Geosciences*, 62, 35-42.
11. A. Md Ali, G. Di Baldassarre & D. P. Solomatine (2014): Testing different cross-section spacing in 1D hydraulic modelling: A case study on Johor River, Malaysia, *Hydrol. Sci. J.*, doi: 10.1080/02626667.2014.889297.
12. Mukolwe, M. M., Di Baldassarre, G., Werner, M. G. F., & Solomatine, D. P. (2014). Flood modelling: parameterisation and inflow uncertainty. *Proceedings of the ICE - Water Management*, 167, 51-60.
13. K. Yan, G. Di Baldassarre, D.P. Solomatine (2013). Exploring the potential of SRTM topographic data for flood inundation modelling under uncertainty. *J. Hydroinformatics*, 15(3), 849–861. doi: 10.2166/hydro.2013.137.
14. Kayastha. N., Ye, J., Fenicia, F., Kuzmin, V. and Solomatine, D. P. (2013). Fuzzy

committees of specialized rainfall-runoff models: further enhancements and tests. *Hydrol. Earth Syst. Sci*., 17, 4441-4451, doi:10.5194/hess-17-4441-2013.

15. M. Nasseri, B. Zahraie, A. Ansari and D. P. Solomatine (2013). Uncertainty assessment of monthly water balance models based on Incremental Modified Fuzzy Extension Principle method. *J. Hydroinformatics*, 15(4), 1340–1360, doi: 10.2166/hydro.2013.159.
16. Almoradie A., Jonoski A., Popescu I. and Solomatine D. (2013) Web-based access to water-related data using OGC WaterML 2.0. *Int. J. of Advanced Computer Science and Applications*, EnviroGRIDS Special Issue on "Building a Regional Observation System in the Black Sea Catchment", pp. 83-89 (doi: 10.14569/SpecialIssue.2013.030310).
17. Almoradie, A., Jonoski, A., Stoica, F., Solomatine, D.P., Popescu, I. (2013). Web-based flood information system: case study of Somesul-Mare, Romania, *J. Environmental Engineering and Management*, 12(5), 1065-1070.
18. V. Moya Quiroga, I. Popescu, D.P. Solomatine, L. Bociort (2013). Cloud and cluster computing in uncertainty analysis of integrated flood models. *J. Hydroinformatics*, 15(1), 55-69, online on 18 July 2012, doi:10.2166/hydro.2012.017.
19. P. D. T. Van, I. Popescu, A. van Griensven, D. P. Solomatine, N. H. Trung, and A. Green (2012). A study of the climate change impacts on fluvial flood propagation in the Vietnamese Mekong Delta. *Hydrol. Earth Syst. Sci*., 16, 4637–4649, doi:10.5194/hess-16-4637-2012.
20. Maa L., Kang S., Xuan Y., Sua X., Solomatine D.P. (2012). Analysis and simulation of the influencing factors on regional water use based on information entropy. *Water Policy*, 14, 1033–1046, doi: 10.2166/wp.2012.066.
21. R. J. Abrahart, F. Anctil, P. Coulibaly, C. W. Dawson, N. J. Mount, L. M. See, A. Y. Shamseldin, D. P. Solomatine, E. Toth, R. L. Wilby (2012). Two decades of anarchy? Emerging themes and outstanding challenges for neural network river forecasting. *Progress in Physical Geography*, 36(4), 480-513, online on July 2012, doi: 10.1177/0309133312444943.
22. Bhattacharya, B., van Kessel, T. and Solomatine, D.P. (2012). Spatio-temporal prediction of suspended sediment concentration in the coastal zone using artificial neural network and a numerical model. *J. of Hydroinformatics*, 14(3), 574-594.
23. Gichamo Z., G., Popescu, I., Jonoski, A., Solomatine, D.P. (2012). River Cross Section Extraction from ASTER Global DEM for Flood Modeling, *Environmental Modelling & Software*, 31(5), 37-46.
24. Di Baldassarre, G., Elshamy, M., van Griensven, A., Soliman, E., Kigobe, M., Ndomba, P., Mutemi, J., Mutua, F., Moges, S., Xuan, J.-Q., Solomatine, D. & Uhlenbrook, S. (2011). Future hydrology and climate in the River Nile basin: a review. *Hydrol. Sci. J.* 56(2), 199-211.
25. Siek, M.B. and Solomatine, D.P. Real-time Data Assimilation for Chaotic Storm Surge Model Using NARX Neural Network (2011). *Journal of Coastal Research*, SI 64, 1184-1188.
26. Siek, M.B. and Solomatine, D.P. Optimized Dynamic Ensembles of Multiple Chaotic Models in Predicting Storm Surges. *Journal of Coastal Research*, SI 64, 1189-1194, 2011.
27. M. Siek and D. P. Solomatine. Nonlinear chaotic model for predicting storm surges. *Nonlinear Processes in Geophysics*, 17, 405–420, 2010.
28. K. Hassaballah, A. Jonoski, I. Popescu, D.P. Solomatine. Model-Based Optimization of Downstream Impact During Filling of a New Reservoir: Case Study of Mandaya/Roseires Reservoirs on the Blue Nile River. *Water Resources Management*,

DOI: 10.1007/s11269-011-9917-8, 2011.

29. Jung, N. C., Popescu, I., Price R. K., Solomatine, D., Kelderman, P., Shin, J.K. (2011), The use of the A.G.P. test for determining the phytoplankton production and distribution in the thermally stratified reservoirs: The case of the Yongdam reservoir in Korea. J. of Environmental Engineering and Management, 10 (11), 1647-1657.
30. A. Elshorbagy, G. Corzo, S. Srinivasulu, and D.P. Solomatine. Experimental investigation of the predictive capabilities of data driven modeling techniques in hydrology - Part 1: Concepts and methodology. *Hydrol. Earth Syst. Sci.*, 14, 1931–1941, 2010.
31. A. Elshorbagy, G. Corzo, S. Srinivasulu, and D.P. Solomatine. Experimental investigation of the predictive capabilities of data driven modeling techniques in hydrology - Part 2: Application. *Hydrol. Earth Syst. Sci.*, 14, 1943–1961, 2010.
32. W. Barreto, Z. Vojinovic, R.K. Price, D.P. Solomatine. A multi-objective evolutionary approach to rehabilitation of urban drainage systems. *ASCE Journal of Water Resources Planning and Management*, 2010, doi: 10.1061/(ASCE)WR.1943-5452.0000070.
33. L. Alfonso, A. Jonoski, D.P. Solomatine. Multi-objective optimisation of operational responses for contaminant flushing in water distribution networks. *ASCE Journal of Water Resources Planning and Management*, 136 (1), 2010, 48-58, doi: 10.1061/(ASCE)0733-9496(2010)136:1(48).
34. Jung, N.C, Popescu, I., Kelderman, P., Solomatine, D.P. and Price, R.K. Application of model trees and other machine learning techniques for algal growth prediction in Yongdam reservoir, Republic of Korea. *J. of Hydroinformatics*, 12(3), 2010, 262–274, doi:10.2166/hydro.2009.004.
35. A. Zamani, A. Azimian, A. Heemink, D.P. Solomatine. Non-linear wave data assimilation with an ANN-type wind-wave model and Ensemble Kalman Filter (EnKF). *Applied Mathematical Modelling* (2009), doi:10.1016/j.apm.2009.10.013.
36. G. Corzo, D. Solomatine, Hidayat, M. de Wit, M. Werner, S. Uhlenbrook, and R. Price. Combining semi-distributed process-based and data-driven models in flow simulation: a case study of the Meuse river basin. *Hydrol. Earth Syst. Sci.*, 13, 1619–1634, 2009.
37. D. L. Shrestha, N. Kayastha, and D. P. Solomatine. A novel approach to parameter uncertainty analysis of hydrological models using neural networks. *Hydrol. Earth Syst. Sci.*, 13, 1235–1248, 2009.
38. D.P. Solomatine, D.L. Shrestha. A novel method to estimate model uncertainty using machine learning techniques. *Water Resources Res.* 45, W00B11, doi:10.1029/2008WR006839, 2009.
39. A. Zamani, A. Heemink, A. Azimian, D.P. Solomatine. Wave height prediction at Caspian Sea using data driven model and ensemble based data assimilation methods, *J. Hydroinformatics*, 2009, 11(2), 154–164.
40. A. Zamani, D.P. Solomatine, A. Azimian, A. Heemink. Learning from data for wind–wave forecasting. *Ocean Engineering*, 2008, 35(10), 953-962.
41. J. Hall, D.P. Solomatine. A framework for uncertainty analysis in flood risk management decisions. *J. River Basin Management*, 2008, 6(2), 85-98.
42. D.L. Shrestha, D.P. Solomatine. Data-driven approaches for estimating uncertainty in rainfall-runoff modelling. *J. River Basin Management*, 2008, 6(2), 109-122.
43. D.P. Solomatine and A. Ostfeld. Data-driven modelling: some past experiences and new approaches. *J of Hydroinformatics*, 2008, 10(1), 3-22.
44. W. Nishida, D.P. Solomatine, M. Noguchi and S. Suzuki. Model parameter estimation by global optimization algorithm ACCO complemented by an ANN-based error estimator.

JSCE Ann. J. of Hydraulic Engineering, 52, 2008, 1411-1416 (in Japanese).

45. Fenicia, F., Solomatine, D. P., Savenije, H. H. G. and Matgen, P. Soft combination of local models in a multi-objective framework. *Hydrol. Earth Syst. Sci.*, 11, 1797-1809, Special Issue "Data-driven approaches, optimization and model integration: hydrological applications", R. Abrahart, L. See, D. Solomatine, and E. Toth (eds.), 2007.
46. G. Corzo and D.P. Solomatine. Baseflow separation techniques for modular artificial neural network modelling in flow forecasting. *Hydrological Sciences J.*, 2007, 52(3), 491-507.
47. L. See, D.P. Solomatine, R. Abrahart, and E. Toth. Hydroinformatics: computational intelligence and technological developments in water science applications. *Hydrological Sciences J.*, 2007, 52(3), 391-396.
48. G. Corzo and D.P. Solomatine. Knowledge-based modularization and global optimization of artificial neural network models in hydrological forecasting. *Neural Networks*, 2007, 20, 528–536.
49. D.P. Solomatine, M. Maskey, D.L. Shrestha. Instance-based learning compared to other data-driven methods in hydrologic forecasting. *Hydrological Processes*, 2008, 22, 275 – 287 (first published online: 24-July, 2007).
50. Bhattacharya, B., Price, R.K., and D.P. Solomatine. A machine learning approach to modelling sediment transport, *ASCE J. of Hydraulic Engineering*, 2007, 133(4), 440-450.
51. Vojinovic, Z.; Solomatine, D. and Price, R. K. Dynamic least-cost optimization of waste water systems remedial works requirements. *Water, Science and Technology*, 2006, 54(6-7), 467-475.
52. D.L. Shrestha, D.P. Solomatine. Experiments with AdaBoost.RT, an Improved Boosting Scheme for Regression. *Neural Computation*, 2006, 17, 1678-1710.
53. D.L. Shrestha, D.P. Solomatine. Machine learning approaches for estimation of prediction interval for the model output. *Neural Networks J.*, 2006, 19(2), 225-235.
54. D.P. Solomatine, M.B. Siek. Modular learning models in forecasting natural phenomena. *Neural Networks J.*, 2006, 19(2), 215-224.
55. B. Bhattacharya, D.P. Solomatine. Machine learning in sedimentation modeling. *Neural Networks J.*, 2006, 19(2), 208-214.
56. B. Bhattacharya, D.P. Solomatine. Machine learning in soil classification. *Neural Networks J.*, 2006, 19(2), 186-195.
57. V. Cherkassky, V. Krasnopolsky, D.P. Solomatine, J. Valdes. Computational Intelligence in Earth Sciences and Environmental Applications: Issues and Challenges. *Neural Networks J.*, 2006, 19(2), 113-121.
58. B. Bhattacharya, R.K. Price and D.P. Solomatine. Data-driven modelling in context to sediment transport. *Journal of Physics and Chemistry of the Earth*, Parts A/B/C, 30 (4-5), 2005, 297-302.
59. W. Nishida, M. Noguchi, D.P. Solomatine. Study on Numerical Prediction of Tidal Current using Forecasted Weather Data. *JSCE Ann. J. of Hydraulic Engineering*, 2005, 49(2), 1279-1284 (in Japanese).
60. B. Bhattacharya and D.P. Solomatine. Neural networks and M5 model trees in modelling water level-discharge relationship. *Neurocomputing*, 63, 2005, 381-396.
61. A.H. Lobbrecht, Y. Dibike and D.P. Solomatine. Artificial Neural Networks and Fuzzy Systems in Model Based Control of the Overwaard Polder. *ASCE Journal of Water Resources Planning and Management*, 131(2), 2005, 135-145.
62. D.P. Solomatine and Y. Xue. M5 model trees compared to neural networks: application to flood forecasting in the upper reach of the Huai River in China. *ASCE Journal of*

Hydrologic Engineering, 9(6), 2004, 491-501.

63. W. Nishida, M. Noguchi, H. Matsushita and D.P. Solomatine. A Study on the Application of Genetic Algorithm to Calibration of Water Quality Model. *Ann. J. of Hydraulic Engineering*, 48 (2), 2004, 1321-1326 (in Japanese).
64. M. Noguchi, D.P. Solomatine, W. Nishida. Automatic Calibration of Water Quality Simulation Model Using Global Optimization Technique, *Ann. J. of Hydraulic Engineering*, 47 (2), 2003, 1267-1272 (in Japanese).
65. B. Bhattacharya, A.H. Lobbrecht, D.P. Solomatine. Neural networks and reinforcement learning in control of water systems. *ASCE Journal of Water Resources Planning and Management*, vol. 129 (6), 2003, 458-465.
66. D.P. Solomatine, K.N. Dulal. Model trees as an alternative to neural networks in rainfall–runoff modelling. *Hydrological Sciences Journal*, 48(3), 2003, 399-411.
67. A.H. Lobbrecht, D.P. Solomatine. Machine learning in real-time control of water systems. *Urban Water*, 4, 2002, 283-289.
68. S. Maskey, A. Jonoski, D.P. Solomatine. Groundwater remediation strategy using global optimization algorithms. *ASCE Journal of Water Resources Planning and Management*, 128 (6), 2002, 431-440.
69. Y.B. Dibike, S. Velickov ., D.P. Solomatine and M.B. Abbott. Model induction with support vector machines: introduction and applications. *ASCE Journal of Computing in Civil Engineering*, 15(3), 2001, 208-216.
70. Y.B. Dibike and D.P. Solomatine. River Flow Forecasting Using Artificial Neural Networks, *Journal of Physics and Chemistry of the Earth, Part B: Hydrology, Oceans and Atmosphere*, 26(1), 2001, 1-8.
71. A.J. Abebe, D.P. Solomatine, R. Venneker. Application of adaptive fuzzy rule-based models for reconstruction of missing precipitation events. *Hydrological Sciences Journal*, 45(3), 2000, 425-436.
72. H. Yan, D.P. Solomatine, S. Velickov, M.B. Abbott. Distributed environmental impact assessment using Internet. *Journal of Hydroinformatics*, 1(1). 1999, 59-70.
73. D.P. Solomatine, Y. Dibike, N. Kukuric. Automatic calibration of groundwater models using global optimization techniques. *Hydrological Sciences Journal*, 44(6), 1999, 879-894.
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