

# SUMMARY CURRICULUM VITAE FOR ANDERS WÖRMAN

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**NAME:** Anders Wörman  
**DATE OF BIRTH:** 19<sup>th</sup> of March 1961  
**POSITION:** (Full) Professor of River Engineering, Head of Division of River Engineering.  
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**ACADEMIC DEGREES:** MSc in Civil Engineering at the Royal Institute of Technology .....1985  
Dr (Licentiate) of Engineering at the Royal Institute of Technology .....1987  
PhD in Hydraulic Engineering at the Royal Institute of Technology.....1991  
Associate Professor (Docent) in Sedimentology at Uppsala University .....1995  
Associate Professor (Docent) in Hydraulic Engineering at the Royal Institute of Technology .....1997  
(Full) Professor of Environmental Physics, SLU, Sweden .....2003  
(Full) Professor of River Engineering, KTH, Sweden .....2006

## CAREER (REVERSE CHRONOLOGICAL ORDER)

- Professor of River Engineering at the Royal Institute of Technology, Stockholm, from Sep. 2006 and ongoing: Head of division (Sep. 2006 -), associate editor of hydrology section of Acta geophysica (Nov. 2008 – Jan. 2012), serving on programme committee of Swedish research Council Formas (April 2006 – March 2009; June 2015 – Oct 2019), member of advisory board of the Swedish Hydropower Centre (SVC) (April 2006-2018).
- Professor of Environmental Physics at the Swedish University of Agricultural Sciences from Aug. 2003 – Sep. 2006: Director of studies with responsibility for the educational programme in Biosystems Engineering (300 ECTS credits).
- Senior researcher at the Swedish University of Agricultural Sciences from April 2002 – Aug. 2003: Member of an international Board of Experts (OVERSITE) set-up by the Swedish Radiation Protection Authority as a support for safety assessments of the final waste repository for spent nuclear fuel (2002 – 2009).
- Senior lecturer (sv: universitetslektor) from April 1994 – May 2002 (visiting resr at the Royal Institute of Technology from Feb. 2001 – April 2002): Coordinator for the educational programme Aquatic and Environmental Engineering (300 ECTS) (May 1993 – April 2000). Director of studies in Sedimentology (July 1999 – January 2001).
- Research Associate (sv: Forskarassistent): Dept. of Earth Science, Uppsala University (June 1992 – March 1994).
- Research and Consultant Engineer: Hydraulics Laboratory, Swedish State Power Board (Oct. 1991 – Aug. 1993).

## BOARD MEMBERSHIPS AND ADMINISTRATIVE APPOINTMENTS (SELECTED)

- Service on the board of the Dept. of Sustainable Development, Environmental Science and Engineering (Jan 2018 -).
- Vice Dean with responsibility for undergraduate education at the School of Architecture and the Built Environment at the Royal Institute of Technology (May 2010 – June 2014).
- On the request of the Vice President for collaboration of the Royal Institute of Technology (KTH) serve on a committee for development of collaboration with Vattenfall AB, January 2016.
- Service on the advisory board of the Swedish Hydropower Centre (SVC) (April 2006-2018).
- Service on the board of Experts (OVERSITE) set-up by the Swedish Radiation Protection Authority as a support for safety assessments of the final waste repository for spent nuclear fuel (March 2002 –December 2009).
- Coordinator and service on the programme committee for the educational programme Aquatic and Environmental Engineering (300 ECTS) (May 1993 – April 2000).
- Study director with responsibility for the educational programme Biosystems Engineering and service on the programme committee (Dec. 2003 – July 2006 (300 ECTS)
- Member of the elector board (elektorsförsamling) of the Faculty of Science and Technology at Uppsala University from September of 1994 to May of 1997.

## **EDITORIAL BOARD MEMBERSHIPS**

- Associate editor of hydrology section of *Acta geophysica* (Nov. 2008 – Jan 2012)

## **GRADUATE SUPERVISION (COMPLETED PHD DISSERTATIONS)**

- Jonas Forsman (Main advisor, Dr. thesis in June 1999, Currently at Golder Assoc.)
- Serena Hasselblad (Main Advisor, Dr. thesis in Oct. 1999)
- Shulan Xu (Main advisor, Dr. thesis in Dec. 2000, Currently at SSM)
- Karin Jonsson (Main advisor, Dr. thesis in May 2001, Currently at Kemakta AB)
- Håkan Johansson (Co-advisor, Dr. thesis in March 2002)
- Johan Kjellin (Main advisor, Lic. thesis in May 2007, Currently at Vägverket Konsult AB)
- Lars Marklund (Main advisor, Dr. thesis in October 2009, Currently at KTH and Thyréns).
- Muluneh Admass Mekonnen (Co-advisor, Dr. thesis in May 2008, Currently at Centre - Eau Terre Environnement, Quebec, Canada)
- Shimelis Gebriye Setegn (Co-advisor, Dr. thesis in March 2010)
- Hans Rönnqvist (Main advisor, Lic. thesis in September 2010)
- Ting Liu (Main advisor, Dr. thesis in January 2014)
- Joakim Riml (Main Advisor, Dr. thesis in September 2014)
- Noah Schmadel (Co-advisor, Dr. thesis in December 2014)
- Anna Åkesson (Main advisor, Dr. thesis in October 2015)
- Nawaz Ahmad (Main advisor, Dr. thesis in April 2016)
- Farzad Ferdo (Main advisor, Dr. thesis in November 2016)
- Nicholas Zmijewski (Main advisor, Dr. thesis in March 2017)

There are five current assignments (Morteza Mojarrad, Ida Morén, Shuang Hao and Kirlna Skeppström and Rajabu Hamisi). Totally 38 MSc thesis work has been supervised from 1994 to currently.

## **AWARDS AND NOMINATIONS**

- Awarded the Thernwall prize (27th October 1992) by The Royal Swedish Academy of Engineering Science.
- Scientific papers selected two times as “Editors Highlight” by the *Geophysical Research Letters*, on 7th of April 2006 (paper 33) and on 5th of April 2007 (paper 38).

## **ACADEMIC ACTIVITIES AND ACHIEVEMENTS**

- Author of 88 peer reviewed papers in scientific journals, 6 book chapters, 35 conference papers and 48 technical reports and popular publications. H-index of 28 according to Google Scholar (3,346 citations), 22 according to Scopus and 21 according to Web of Science (Institute of Scientific Information, ISI), 2020-11-02.
- Last ten years (2010-2019), principal investigator and project leader of eighteen externally funded research projects that amounts to 49.55 MSEK.
- Adviser for PhD-students that so far has led to fifteen (15) completed PhD thesis (four as co-advisor) and advisor of five (5) completed licentiate theses. Currently, there are four (4) advisory assignments.
- Advisor of some 40 master theses.
- Initiator and Co-ordinator of two educational programmes at two universities: Master of Science Programme for Aquatic and Environmental Engineering at the School of Engineering, Uppsala University, from May 1993 to April 2000 and the master of science programme Biosystems Engineering from December 2003 to June 2006.
- Invited speaker to twenty-one (21) international conferences in Europe, India, USA and China.
- Organiser and chairman of twelve (12) international conferences (e.g. AGU Fall Meeting in San Francisco, Joint Assembly in New Orleans, Organising Committee of the International Conference on Constructed and Riverine Wetlands for Optimal Control of Wastewater at Catchment Scale Tartu, Estonia, 29 September – 2 October, 2003)
- Involved in several international research projects (PRIMROSE, RETROCK, CLIMB, Soils2Sea, HypoTRAIN), including the role as workpackage leader.
- Appointments in examination committees and opponent on doctoral dissertations at 25 occasions.
- Considered eligible for five professorships (incl. current position).

## **EXPERT ASSIGNMENTS (SELECTED)**

- Member of the Board of Uppsala Water Centre (sw: Uppsala Vattencentrum) from January of 1999 to January 2001.
- Appointment as KTH's representative in the board of Swedish Hydropower Centre from September 2006 – currently.
- Evaluator of 6 professorships at NTNU, Norway, Oregon State University, USA, Heriot-Watt University, England, and Lund University, Sweden
- Review assignments for more than 15 peer-reviewed journals and several research councils in different countries.
- On the request by the Research Council of Norway serve as scientific expert in a review panel for the evaluation of a Centre for Environmentally Friendly Energy Research, CEDREN, 6th to 8th of March 2013 and a funding proposal for Centres for Environment-friendly Energy Research (FME) in Oslo, 7th December, 2016.
- Expert advisor for United Nations Framework Convention in Climate Change (UNFCCC), especially baseline methodology for grid-connected electricity generation from renewable sources, 2009 – 2010.
- Swedish delegate of the International Committee on Large Dams (ICOLD), hydraulics committee (appointed from November 2007 – 2012).
- Member of FORMAS evaluation committee for research proposals within Climate and Biogeochemistry, 2006 to 2008.
- Member of FORMAS evaluation committee for research proposals within Climate Change, 2015 to 2018.
- Member of SIS Technical Committee on Hydrometry from 21st October 2008 to 2014.
- Member of the OVERSITE, an int. Board of Experts set-up by the Swedish Radiation Protection Institute as support for the safety assessments of the waste repository for spent nuclear fuel (March 2002 –December 2009).

## **CONSULTANT EXPERIENCE (SELECTED)**

- Advisor in several hydraulic and geotechnical issues on the request of Sweco AB regarding through flow models and pump tests in Trängslet and Spjutmo embankment dams (2006 – 2013).
- Repeated consultant projects for the former Swedish Radiation Protection Authority and the currently Swedish Radiation Safety Authority (2004-2016). These projects have comprised the review work of reporting made by the Swedish Nuclear Waste Management Company (SKB).
- Investigation of the possibility to reduce flood risk and mosquito production along lower part of River Dalälven by hydropower regulation on the request by Länsstyrelsen in Gävleborg 2012- 2013.
- Recommendation manual (report) on radioactive artificial tracers in surface water on the request of the International Atomic Energy Agency (IAEA) (2008-2009).
- Development of hydrological design principles for hydropower plants in developing countries on the request of UN Framework Convention on Climate Change (2009).
- Investigation of leakage of drill mud in Lya Creek on Ridge Hallandsåsen in connection with legal process against Skanska International Civil Engineering on the request of Skanska AB (2007-2008).
- Design of wave energy equipment for JPC Hydraulik (2009).
- Investigation of and suggested remediation action against erosion conditions around foundation of electric power line on the request of ABB – Power Systems AB (1995).
- Investigation of erosion conditions and riprap design in Kihansi canal, Tanzania, on the request of Norplan A/S, Norway (1993).

## Peer-reviewed papers

- A1. Wörman, A., 1989. "Riprap Protection without Filter Layers", *Journal of Hydraulic Engineering*: 115(12), 1615-1630.
- A2. Wörman, A., 1992. "Incipient Motion of During Static Armoring", *Journal of Hydraulic Engineering*: 118(3), 496-501.
- A3. Wörman, A., Olafsdottir, R., 1992. "Erosion in a Granular Medium Interface", *Journal of Hydraulic Research*: 30(5), 639-655.
- A4. Wörman, A., 1993. "Seepage Induced Mass-Wasting in Coarse Soil-Slopes", *Journal of Hydraulic Engineering*: 119(10), 1155-1168.
- A5. Wörman, A., Skoglund, 1992. "Overtopping of the Core in Rockfill Dams - Internal Erosion", Wörman, A. and Skoglund, M., *HydroPower92*, June 1992 Lillehammer, Norway, Eds. E. Broch and D.K. Lysne, A.A. Balkema, the Netherlands, 433-440.
- A6. Reh binder, G., Wörman, A., 1994. "Deformation of Dupuit's Parabola in a Dam with Sheet Piling", *Applied Scientific Research*: 52, 173-185.
- A7. Carlsten, S., Johansson, S., Wörman, A., 1995. "Radar Techniques for Indication of Internal Erosion in Embankment Dams", *Journal of Applied Geophysics*: 33, 143-156.
- A8. Wörman, A., Cvetkovic, V., 1995. "System Heterogeneity as a Variable for Solute Transport in Streams", *Journal of Hydraulic Engineering*: 121(11), 782-791.
- A9. Wörman, A., 1995. "Coupled Hydrological and Bio-geo-chemical Model for Aqueous Contaminant Transport", *Marine and Freshwater Research*: 46, 197-208. doi:10.1071/MF9950197
- A10. Wörman, A., "Parameterizing Vertical Mixing Depth in Bed Sediments in Analyses of Horizontal Transport in Aquatic Systems", *Physics and Chemistry of the Earth*. 1995: 20(2), 155-162.
- A11. Meili, M., Wörman, A., 1996. "Desorption and Diffusion of Episodic Pollutants in Sediments: a 3-phase Model Applied to Chernobyl <sup>137</sup>Cs", *Applied Geochemistry*: 11, 311-316.
- A12. Wörman, A., 1996. "Discussion on a Design Relationship for Filters in Bed Protection", *Journal of Hydraulic Engineering*: 122(3), 177-178.
- A13. Wörman, A., Forsman, J., Johansson, H., 1998. "Modeling Retention of Sorbing Solutes in Streams Based on a Tracer Experiment Using <sup>51</sup>Cr", *Journal of Environmental Engineering*: 124(1), 122 - 130.
- A14. Wörman, A., 1998. "Analytical Solution and Time Scale of Solute Transport in Streams and Rivers", *Water Resources Research*: 34(10), 2703-2716.
- A15. Meili, M., Wörman, A., 1997. "Modelling the Desorption and Diffusion of Chernobyl <sup>137</sup>Cs in Sediments - a Reply to the Comments by J.T. Smith", *Applied Geochemistry*: Vol. 12, pp 861 - 866.
- A16. Wörman, A., 2000. "Comparison of Models for Transient Storage in Small Streams", *Water Resources Research*: 36(2), 455-468.
- A17. Xu, S., Wörman, A., 1999. "Implications of Sorption Kinetics to Radionuclide Migration in Fractured Rock", *Water Resources Research*: 35(11), 3429-3440.
- A18. Wörman, A., Xu, S., Dverstorp, B., 2003. "Kinematic Analysis of Solute Mass Flows in Rock Fractures with Spatially Random Parameters", *Journal of Contaminant Hydrology*: 60, 163-191.
- A19. Wörman, A., Xu, S., 2001. "Stochastic Transport Analysis of Internal Erosion in Stratified Soil Structures – Implications to risk Assessments", *Journal of Hydraulic Engineering*: 127(5), 419-428.
- A20. Jonsson, K., Wörman, A., 2001. "Effect of Sorption Kinetics on the Transport of Solutes in Streams", *Science of the Total Environment*: Vol. 266, 239-247.
- A21. Johansson, H., Jonsson, K., Forsman, K.J., Wörman, A., 2001. "Retention of Conservative and Sorptive Solutes in Rivers - Simultaneous Tracer Experiments": Vol. 266, 229-238, *Science of the Total Environment*.
- A22. Xu, S., Wörman, A., Dverstorp, B., 2001. "Heterogeneous Matrix Diffusion in Crystalline Rock - Implications to Geosphere Retardation of Migrating Radionuclides", *J Contaminant Hydrology*: 47(2-4) 365-378.
- A23. Wörman, A., Packman, A.I., Jonsson, K., Johansson, H., 2002. "Effect of Flow-Induced Exchange in Hyporheic Zones on Longitudinal Transport of Solutes in Streams and Rivers", *Water Resources Research*: 38(1), 2:1-15.
- A24. Wörman, A., Kløve, B., Wachniew, P., 2004. "Kinematic Model of Solute Transport in Stream Networks: Example with Phosphate Retention in Morsa Watershed, Norway" *Archives of Hydro-Engineering and Environmental Mechanics*: ISSN 1231-3726, Vol. 51, No. 1, 41-53.
- A25. Jonsson, K., Johansson, H., Wörman, A., 2003. "Hyporheic Exchange of Reactive and Conservative Solutes in Streams – Tracer Methodology and Model Interpretation", *Journal of Hydrology*: 278, 153-171.

- A26. Wörman, A., Kronnäs, V., 2005. "Effect of shape of constructed wetlands and heterogeneity of vegetation on hydraulic performance and wastewater treatment ", *Journal of Hydrology*: 301( 1-4), 123-138.
- A27. Salehin, M., Packman, A.I., Wörman, A., 2003. "Comparison of Hyporheic Exchange in Vegetated and Unvegetated Reaches of a Small Agricultural Stream in Sweden: Seasonal Variation and Anthropogenic Manipulation", *Advances in Water Resources*: 26(9), 951-964.
- A28. Jonsson, K., Johansson, H., Wörman, A., 2004. "Sorption Behaviour and Long-term Retention of Reactive Solutes in the Hyporheic Zone of Streams". *Journal of Environmental Engineering*: 130(5), 573-584.
- A29. Wörman, A., Dverstorp, B., Klos, R., and Xu, S., 2004. "Role of the Bio- and Geosphere Interface on Migration Pathways for Radionuclides and Ecological Effects". *Nuclear Technology*: 148(2), 194-204.
- A30. Kløve, B., Xu, S., Lindahl, A., Wörman, A., Søvik, A., 2005. "A study of K variability and its effect on solute transport in subsurface-flow sand filters by measurement and modelling", *Journal of Environmental Science and Health, Part A-Toxic/Hazardous Substances & Environmental Engineering*: 40(6-7), 1123-1132.
- A31. Xu, S., Wörman, A., Dverstorp, B., 2005. "Effects of compartmental model structure and long-term inflow on model predictions", *Radioprotection 2005*, Vol. 40, n° Suppl. 1, pages S477 à S483 <http://dx.doi.org/10.1051/radiopro:2005s1-070>
- A32. Xu, S., Wörman, A., Dverstorp, B., 2007. "Criteria for resolution-scales and parameterisation of compartmental models of hydrological and ecological mass flows", *J. Hydrol.*, 364-373. DOI: 10.1016/j.jhydrol.2006.12.004
- A33. Wörman, A., Packman, A.I., Marklund, L., Harvey, J.W., Stone, S., 2006. "Exact three-dimensional spectral solution to surface-groundwater interactions with arbitrary surface topography", *Geophys. Res. Lett.*, 33, L07402, doi:10.1029/2006GL025747.
- A34. Wörman, Wachniew, P., 2007. "Reach scale and evaluation methods as limitations for transient storage properties in streams and rivers", *Water Resources Research*, doi:10.1029/2006WR005808.
- A35. Wörman, A., Wachniew, P., Czuprynski, P., Kløve, B., Packman, A., 2005. "Tracer test in Hobøl Creek, Norway, under different flow conditions", *Acta Geophysica Polonica*: Vol. 53(4), 517-526.
- A36. Kjellin, J., Wörman, A., Johansson, H., Lindahl, A., 2006. "Controlling factors for water residence time and flow pattern in Ekeby treatment wetland, Sweden", *Advances in Water Resources*: doi:10.1016/j.advwatres.2006.07.002.
- A37. Marklund, L., Wörman, A., Simic, E., Geier, J., Dverstorp, B., 2008. "The impact of different geological parameters on transport of radionuclides", *Nuclear Technology*, 163(1), 165-179.
- A38. Wörman, A., A. I. Packman, L. Marklund, J. W. Harvey, and S. H. Stone, 2007. "Fractal topography and subsurface water flows from fluvial bedforms to the continental shield", *Geophys. Res. Lett.*: 34, L07402, doi:10.1029/2007GL029426.
- A39 Wörman, A., Marklund, L., Xu, S., Dverstorp, B., 2007. "Impact of repository depth on residence times for leaking radionuclides in land-based surface water", *Acta Geophysica*: Vol. 55(1), DOI 10.2478/s11600-006-0040-9.
- A40. Kjellin, J., Hallin, S., Wörman, A., 2007. "Spatial Variability in denitrification activity in wetland sediments explained by hydrological and denitrifying community structure", *Water Research*: doi:10.1016/j.watres.2007.06.053.
- A41. Wörman, A., 2007. "Interactive comment on "Evaluation of 1-D tracer concentration profile in a small river by means of multi-layer perceptron neural networks, by A. Pietrowski et al.", *Hydrol. Earth Syst. Sci. Discussion*, 4, S1-S3.
- A42. Mekonnen, M.A., Wörman, A., Dargahi, B., Gebeyehu, A., 2009. "Hydrological modeling of Ethiopian catchments using limited data". *Hydrological Processes*, 23 (3401-3408). DOI: 10.1002/hyp.7470
- A43. Xu, S., Dverstorp, B., Wörman, A., 2008. "Prediction of concentration and model validation", *Radioprotection*, Suppl. 1, vol. 43 (2008), EDP Sciences, 2008, DOI : 10.1051/radiopro:2008. <http://dx.doi.org/10.1051/radiopro/20095128>
- A44. McDonnell, J.J., K. McGuire, P. Aggarwal, K. Beven, D. Biondi, G. Destouni, S. Dunn, A. James, J. Kirchner, P. Kraft, S. Lyon, P. Maloszewski, B. Newman, L. Pfister, A. Rinaldo, A. Rodhe, T. Sayama, J. Seibert, K. Solomon, C. Soulsby, M. Stewart, D. Tetzlaff, C. Tobin, P. Troch, M. Weiler, A. Western, A. Wörman, S. Wrede, 2010. "How old is streamwater? Open questions in catchment transit time conceptualization, modelling and analysis.", *Hydrological Processes*, 24(12), pp. 1745-1754. DOI: 10.1002/hyp.7796
- A45. Wörman, A., Lindström, G., Riml, J., Åkesson, A., 2010. "Drifting runoff periodicity during the 20th century due to changing surface water volume", *Hydrological Processes* 2010, 24(26), 3772 – 3784, DOI: 10.1002/hyp.7810
- A46. Henkel, H., Jing, L., Piazzolo, S., Wörman, A., 2010. "A Deep Rock Laboratory in the Dellen Impact Crater", *GFF*, Feb. 26 2010, Published By: Taylor & Francis.

- A47. Stonedahl, S.H., Harvey, J.W., Wörman, A., Salehin, M., Packman, A.I., 2009. "A three-dimensional spectral model for hyporheic exchange reveals the importance of interactions spanning scales from bedforms to meanders", *WATER RESOURCES RESEARCH*, VOL. 46, W12539, doi:10.1029/2009WR008865
- A48. Marklund, L., Wörman, A. 2011. "The Use of Spectral Analysis for Exact Solutions to Topography-Controlled Groundwater Flow", *Hydrogeology Journal* 19(8):1531-1543, doi:10.1007/s10040-011-0768-4
- A49. Hödl, I, Hödl, J., Wörman, A., Singer, G., Besemer, K., and Battin, T.J., 2011. "Voronoi Tessellation Captures Very Early Clustering of Single Primary Cells as Induced by Interactions in Nascent Biofilms". *PLOS One*, 6(10)
- A50. Riml, J., Wörman, A., 2011, "Response functions for in-stream solute transport in river networks", *WATER RESOURCES RESEARCH*, VOL. 47, W06502, 14 PP., 2011  
doi:10.1029/2010WR009412
- A51. Åkesson, A., Wörman, A., 2012. Stage-dependent hydraulic and hydromorphologic properties in stream networks translated into response functions of compartmental models", *Journal of Hydrology* 420–421 (2012) 25–36, doi:10.1016/j.jhydrol.2011.11.015
- A52. Wörman, A., 2011. "Interactive comment on "Quantifying spatial and temporal discharge dynamics of an event in a first order stream, using Distributed Temperature Sensing" by M. C. Westhoff et al., *Hydrol. Earth Syst. Sci. Discuss.*, 8, C1506–C1509, 2011
- A53. Klos, R., Shaw, G., Xu, S., Dverstorp, B., Nordén, M., Wörman, A., 2011. "Potential for high transient doses due to accumulation and chemical zonation of long-lived radionuclides across the geosphere-biosphere interface", *Radioprotection, Suppl. 1*, vol. 46 (2011), EDP Sciences, 2011, DOI : <http://dx.doi.org/10.1051/radiopro/20116573s>
- A54. Riml, J. Wörman, A., Kunkel, U., Radke, M., 2013. "Evaluating the fate of six common pharmaceuticals using a reactive transport model: insights from a stream tracer test", *Science of the Total Environment* 458-460 (2013) 344–354
- A55. Wörman, A., Riml, J., Schmadel, N., Neilson, B.,T., Bottacin\_Busolin, A., Heavilin, J.E., 2012. "Spectral Scaling of Heat Fluxes in Streambed Sediment", *Geophysical Research Letters*, Vol. 39, doi:10.1029/2012GL053922.
- A56. Wörman, A., 2013. "Interactive comment on "Water consumption from hydropower plants – review of published estimates and an assessment of the concept" by T.H. Bakken et al., *Hydrol. Earth Syst. Sci. Discuss.*, 10, C3858-C3861, 2013.
- A57. Farzad, F., Yang, J., Wörman, A., 2013. "Characterization of hydraulic behaviours of coarse rock materials in a large permeameter, *Journal of Geoscience and Environment Protection*, 2013. Vol.1, No.3, 1-6
- A58. Boano, F., Harvey, J.W., Marion, A., Packman, A.I., Revelli, R., Ridolfi, L., Wörman, A., 2014. "Hyporheic flow and transport processes: Mechanisms, models, and biogeochemical implications", *Reviews of Geophysics*. Volume 52, Issue 4, pages 603–679, December 2014, doi: 10.1002/ 2012RG000417
- A59. Schmadel, N., Neilson, B.T., Heavilin, J.E., Stevens, D.K., Wörman, A., 2014, The influence of spatially variable stream hydraulics on reach scale solute transport modeling, *Water Resources Research*, DOI: 10.1002/2014WR015440
- A60. Åkesson, A., Wörman, A., Bottacin-Busolin, A., 2015. "Hydraulic response in flooded stream networks". *Water Resources Research*, DOI: 10.1002/2014WR016279
- A61. Ferdos, F., Wörman, A., Ekström, I., 2015. "Hydraulic conductivity of coarse rockfill used in hydraulic structures", *Transport in porous media*, DOI 10.1007/s11242-015-0481-1
- A62. Riml, J., Wörman, A., 2015. "Spatio-temporal decomposition of solute dispersion in watersheds", *Water Resources Research*, DOI: 10.1002/2014WR016385.
- A63. Wang, J-Z, Jiang, X-W, Wan, L., Wörman, A., Wang, H., Wang, X-S, Li, H., 2015. An analytical study on artesian flow conditions in unconfined-aquifer drainage basins. *Water Resources Research*, DOI: 10.1002/2015WR017104
- A64. Nawaz, A., Wörman, A., Bottacin-Busolin, A., Sanchez-Vila, X., 2015. "Reactive transport modeling of leaking CO<sub>2</sub>-saturated brine along a fractured pathway", *International Journal of Greenhouse Gas Control*, 42 (672 – 689).  
doi:10.1016/j.ijggc.2015.09.001
- A65. Zmijewski, N., Bottacin-Busolin, A., Wörman, A., 2015. "Incorporating hydrologic routing into reservoir operation models: Implications for hydropower production planning". *Water Resources Management*, December 2016, DOI: 10.1007/s11269-015-1181-x
- A66. Schmadel, N., Neilson, B.T., Heavilin, Wörman, A., 2016. Isolating parameter sensitivity in reach scale transient storage modelling, *Advances in Water Resources*, January 2016, doi:10.1016/j.advwatres.2015.12.020
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[dx.doi.org/10.1016/j.ijggc.2016.08.028](http://dx.doi.org/10.1016/j.ijggc.2016.08.028)
- A69. Zmijewski, N., Wörman, A., 2016. "Hydrograph variances over different time-scales in hydropower production networks", *Water Resources Research*, 10.1002/2015WR017775

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- A72. Åkesson, A., Wörman, A., Riml, J., Seibert, J., 2015. "Change in streamflow response in unregulated catchments in Sweden over the last century", *Water Resources Research*, doi/10.1002/2015WR018116
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