

Curriculum Vitae

Name: Peter Reichert

Address: Eawag: Swiss Federal Institute
of Aquatic Science and Technology
8600 Dübendorf
Switzerland

Phone: +41 58 765 52 81

Email: peter.reichert@eawag.ch

Homepage: <http://www.eawag.ch/~reichert>

Google Scholar: <https://scholar.google.ch/citations?hl=de&user=6OtyMPsAAAAJ>

ORCID: <https://orcid.org/0000-0001-7832-4257>

Date of Birth: June 12, 1957 in Basel, Switzerland; Swiss Citizen



Education

1981: M.Sc. in theoretical physics, University of Basel, Switzerland.

1985: Ph.D. in theoretical solid state physics, University of Basel, Switzerland.
Title of thesis: “Amorphy as Spatial Chaos “ (in German).

Professional Experience

1981 - 1985: Research and teaching assistant in theoretical physics at the University of Basel, Switzerland, and Ph.D. dissertation on the application of the theory of chaotic systems to improve the understanding of amorphous solids.

Since 1985: Research scientist at the Swiss Federal Institute of Aquatic Science and Technology (Eawag), Dübendorf, Switzerland.
(2000-2020 head of the department of Systems Analysis, Integrated Assessment and Modelling; 2005-2015 member of the directorate of Eawag)

Teaching

Since 1986: Occasional teaching in courses by Eawag for water professionals about different aspects of water management.

Since 1991: Teaching at the department of Environmental Sciences of the Swiss Federal Institute of Technology (ETH), Zürich, Switzerland in systems analysis and ecological modelling.
(1991-1995 as lecturer, 1995-2002 as “Privatdozent”, since 2002 as adj. professor).

Since 2009: Eawag Summer School on Environmental Systems Analysis
(summer school for PhD students and researchers interested in model-based statistical data analysis with an emphasis on Bayesian techniques).

Research Fields

Systems Analysis Methodology

Development of techniques for statistical inference of model states and parameters that account for the need of using prior information and of considering input and model structure uncertainty and intrinsic stochasticity. 5 Key contributions to this field:

Reichert, P., Ammann, L. and Fenicia, F. Potential and Challenges of Investigating Intrinsic Uncertainty of Hydrological Models with Stochastic, Time-Dependent Parameters. *Water Resources Research*, in press 2021. <https://doi.org/10.1029/2020WR028400>

Kattwinkel, M. and Reichert, P. Bayesian parameter inference for Individual-Based Models using Particle Markov Chain Monte Carlo (PMCMC). *Environmental Modelling & Software* 87, 110-119, 2017. <http://dx.doi.org/10.1016/j.envsoft.2016.11.001>

Reichert, P. and Schuwirth, N. Linking statistical description of bias to multi-objective model calibration. *Water Resources Research*, 48, W09543, 2012. <http://dx.doi.org/10.1029/2011WR011391> (open acc.)

Rinderknecht, S. L., Borsuk, M. E. and Reichert, P. Bridging Uncertain and Ambiguous Knowledge with Imprecise Probabilities, *Environmental Modelling & Software* 36, 122-130, 2012.

<http://dx.doi.org/10.1016/j.envsoft.2011.07.022>

Rinderknecht, S.L., Borsuk, M.E. and Reichert, P. Eliciting Density Ratio Classes. *International Journal of Approximate Reasoning* 52, 792-804, 2011. <http://dx.doi.org/10.1016/j.ijar.2011.02.002> (open access)

Biogeochemical and Ecological Modelling

Development and application of hydrological, biogeochemical and ecological models of river and lake systems to quantitatively describe scientific knowledge and predict effects of changes in driving forces and of management measures. 5 Key contributions to this field:

Schuwirth, N. and Reichert, P. Bridging the gap between theoretical ecology and real ecosystems: modeling invertebrate community composition in streams, *Ecology* 94(2), 368-379, 2013.

<http://dx.doi.org/10.1890/12-0591.1>

Reichert, P. and Schuwirth, N., A generic framework for deriving process stoichiometry in environmental models, *Environmental Modelling & Software*, 25, 1241-1251, 2010.

<http://dx.doi.org/10.1016/j.envsoft.2010.03.002>

Reichert, P., Uehlinger, U. and Acuña V., Estimating stream metabolism from oxygen concentrations: The effect of spatial heterogeneity, *Journal of Geophysical Research* 114, G03016, 2009.

<http://dx.doi.org/10.1029/2008JG000917> (open access)

Reichert, P., Borchardt, D., Henze, M., Rauch, W., Shanahan, P., Somlyódy, L. and Vanrolleghem, P., River Water Quality Model no. 1 (RWQM1): II. Biochemical process equations, *Water Sci. Tech.* 43(5), 11-30, 2001. <http://wst.iwaponline.com/content/43/5/11> (open access)

Omlin, M., Reichert, P. and Forster, R., Biogeochemical model of lake Zürich: Model equations and results, *Ecological Modelling* 141(1-3), 77-103, 2001. [http://dx.doi.org/10.1016/S0304-3800\(01\)00256-3](http://dx.doi.org/10.1016/S0304-3800(01)00256-3)

Environmental Decision Support

Design and apply decision analytical procedures to quantify societal preferences and apply them jointly with scientific predictions of outcomes of management alternatives in environmental decision support. 5 Key contributions to this field:

Reichert, P. Towards a comprehensive uncertainty assessment in environmental research and decision support.

Water Science & Technology 81(8), 1588–1596, 2020. <https://doi.org/10.2166/wst.2020.032>

Kuemmerlen, M., Reichert, P., Siber, R. and Schuwirth, N. Ecological assessment of river networks: From reach to catchment scale. *Science of the Total Environment* 650, 1613-1627, 2019.

<http://dx.doi.org/10.1016/j.scitotenv.2018.09.019>

Haag, F., Lienert, J., Schuwirth, N. and Reichert, P. Identifying non-additive multi-attribute value functions based on uncertain indifference statements. *Omega* 85, 49-67, 2019.

<http://dx.doi.org/10.1016/j.omega.2018.05.011>

Reichert, P., Langhans, S., Lienert, J. and Schuwirth, N. The Conceptual Foundation of Environmental Decision Support. *Journal of Environmental Management* 154, 316-332, 2015.

<http://dx.doi.org/10.1016/j.jenvman.2015.01.053> (open access)

Reichert, P. and Borsuk, M.E., Does high forecast uncertainty preclude effective decision support?, *Environmental Modelling and Software* 20(8), 991-1001, 2005.

<http://dx.doi.org/10.1016/j.envsoft.2004.10.005>

Publications

Software (see also <https://gitlab.com/p.reichert>)

- R package for constructing, evaluating and plotting objective hierarchies and associated value and utility functions. [R package utility](#)
- R package for reading, analysing and plotting river networks. [R package rivernet](#)
- Contributions to R package for evaluating and visualizing ecological assessment procedures for surface waters containing physical, chemical and biological assessments in the form of value functions. [R package ecoval](#)
- R package for calculating stoichiometric coefficients from substance composition, list of involved substances, and additional constraints. [R package stoichcalc](#)
- R package for implementing, simulating and visualizing results of (didactical) biogeochemical and ecological models. [R package ecosim](#)
- R package for Bayesian inference with time-dependent, stochastic parameters. [R package timedepar](#)
- R code for implementing simple, conceptual hydrological models. [R code conhydmod](#)

Publications for Practice

- Känel, B., Michel, C. and Reichert, P. Methoden zur Untersuchung und Beurteilung der Fließgewässer. Makrophyten - Stufe F (flächendeckend) und Stufe S (systembezogen). Entwurf. Bundesamt für Umwelt, Bern. Umwelt-Vollzug, 119 S. 2017.
- Niederberger K., Rey P., Reichert P., Schlosser J., Helg, U., Haertel-Borer S., Binderheim E. *Methoden zur Untersuchung und Beurteilung der Seen. Modul: Ökomorphologie Seeufer*. Bundesamt für Umwelt, Bern. Umwelt-Vollzug Nr. 1632: 73 S. 2016. <http://www.bafu.admin.ch/uv-1632-d>
- Schlosser J. A., Haertel-Borer S., Liechi P. and Reichert P. *Konzept für die Untersuchung und Beurteilung der Seen in der Schweiz*. Anleitung zur Entwicklung und Anwendung von Beurteilungsmethoden. Bundesamt für Umwelt, Bern. Umwelt-Wissen Nr. 1326: 38 S. 2013. <http://www.bafu.admin.ch/uw-1326-d>
- Baumgartner, S., Peter, A., Reichert, P., Robinson, C., Siegenthaler-Le Drian, C., Thomas, G. *Priorisierung von Flussrevitalisierungsprojekten – ökologische Aspekte der Priorisierung und Revitalisierungspotential*. Eawag, 2013.
- Langhans, S. D. and Reichert, P., Einbettung von Verfahren zur Fließgewässerbewertung in ein übergeordnetes Gewässermanagementkonzept – Vorschläge am Beispiel des Modustufenkonzepts. *Wasser Energie Luft* 103(3), 204-214, 2011.
- Reichert, P., Schuwirth, N. und Langhans, S.D. MCWM – Ein Konzept für multikriterielle Entscheidungsunterstützung im Wassermanagement. *Wasser Energie Luft* 103(2), 139-148, 2011.

Articles in peer-reviewed journals and book chapters

- Vermeiren, P., Reichert, P., Graf, W., Leitner, P., Schmidt-Kloiber, A., Schuwirth, N. Confronting existing knowledge on ecological preferences of stream macroinvertebrates with independent monitoring data using a Bayesian multi-species distribution model. *Freshwater Science* 40, in press, 2021. <https://doi.org/10.1086/713175>
- Reichert, P., Ammann, L. and Fenicia, F. Potential and Challenges of Investigating Intrinsic Uncertainty of Hydrological Models with Stochastic, Time-Dependent Parameters. *Water Resources Research*, in press 2021. <https://doi.org/10.1029/2020WR028400>
- Caradima, B., Reichert, P. and Schuwirth, N. Effects of site selection and taxonomic resolution on the inference of stream invertebrate responses to environmental conditions. *Freshwater Science* 39(3), 415-432, 2020. <https://doi.org/10.1086/709024>
- Ammann, L., Doppler, T., Stamm, S., Reichert, P. and Fenicia, F. Characterizing fast herbicide transport in a small agricultural catchment with conceptual models. *Journal of Hydrology* 586, 2020. <https://doi.org/10.1016/j.jhydrol.2020.124812>
- Reichert, P. Towards a comprehensive uncertainty assessment in environmental research and decision support. *Water Science & Technology* 81(8), 1588–1596, 2020. <https://doi.org/10.2166/wst.2020.032>
- Vermeiren, P., Reichert, P. and Schuwirth, N. Integrating uncertain prior knowledge regarding ecological preferences into multi-species distribution models: Effects of model complexity on predictive performance. *Ecological Modelling* 420, 2020. <https://doi.org/10.1016/j.ecolmodel.2020.108956>
- Reichert, P., Niederberger, K., Rey, P., Helg, U. and Haertel-Borer, S. The need for unconventional value aggregation techniques: experiences from eliciting stakeholder preferences in environmental management. *Euro Journal on Decision Processes* 7, 197–219, 2019. <https://doi.org/10.1007/s40070-019-00101-9>
- Haag, F., Reichert, P., Maurer, M. and Lienert, J. Integrating uncertainty in preferences and predictions in decision models: An application to regional wastewater planning. *Journal of Environmental Management* 252, 109652, 2019. <https://doi.org/10.1016/j.jenvman.2019.109652>
- Caradima, B., Schuwirth, N. and Reichert, P. From individual to joint species distribution models: a comparison of model complexity and predictive performance. *Journal of Biogeography* 46(19), 2260-2274, 2019. <https://doi.org/10.1111/jbi.13668>
- Ammann, L., Fenicia, F. and Reichert, P. A likelihood framework for deterministic hydrological models and the importance of non-stationary autocorrelation. *Hydrol. Earth Syst. Sci.* 23, 2147–2172, 2019. <https://doi.org/10.5194/hess-23-2147-2019> (open access)
- Kummerlen, M., Reichert, P., Siber, R. and Schuwirth, N. Ecological assessment of river networks: From reach to catchment scale. *Science of the Total Environment* 650, 1613-1627, 2019. <http://dx.doi.org/10.1016/j.scitotenv.2018.09.019>
- Haag, F., Lienert, J., Schuwirth, N. and Reichert, P. Identifying non-additive multi-attribute value functions based on uncertain indifference statements. *Omega* 85, 49-67, 2019. <http://dx.doi.org/10.1016/j.omega.2018.05.011>

- Machac, D., Reichert, P., Rieckermann, J., Del Giudice, D. and Albert, C. Accelerating Bayesian inference in hydrological modeling with a mechanistic emulator. *Environmental Modelling & Software* 109, 66-79, 2018. <http://dx.doi.org/10.1016/j.envsoft.2018.07.016>
- Kavetski, D., Fenicia, F., Reichert, P. and Albert, C. Signature-domain calibration of hydrological models using approximate Bayesian computation: Theory and comparison to existing applications. *Water Resources Research* 54, 4059-4083, 2018. <http://dx.doi.org/10.1002/2017WR020528>
- Fenicia, F., Kavetski, D., Reichert, P. and Albert, C. Signature-domain calibration of hydrological models using approximate Bayesian computation: Empirical analysis of fundamental properties. *Water Resources Research* 54, 3958-3987, 2018. <http://dx.doi.org/10.1002/2017WR021616>
- Kattwinkel, M. and Reichert, P. Bayesian parameter inference for Individual-Based Models using Particle Markov Chain Monte Carlo (PMCMC). *Environmental Modelling & Software* 87, 110-119, 2017. <http://dx.doi.org/10.1016/j.envsoft.2016.11.001>
- Paillex, A., Reichert, P., Lorenz, A.W. and Schuwirth, N. Mechanistic modelling for predicting the effects of restoration, invasion and pollution on benthic macroinvertebrate communities in rivers. *Freshwater Biology* 62, 1083–1093, 2017. <http://dx.doi.org/10.1111/fwb.12927>
- Paillex, A., Schuwirth, N., Lorenz, A.W., Januschke, K., Peter, A. and Reichert, P. Integrating and extending ecological river assessment: Concept and test with two restoration projects. *Ecological Indicators*. 72, 131-141, 2017. <http://dx.doi.org/10.1016/j.ecolind.2016.07.048>
- Del Giudice, D., Albert, C., Rieckermann, J. and Reichert, P. Describing the catchment-averaged precipitation as a stochastic process improves parameter and input estimation. *Water Resources Research* 2016. <http://dx.doi.org/10.1002/2015WR017871> (open access)
- Machac, D., Reichert, P. and Albert, C. Emulation of dynamic simulators with application to hydrology. *Journal of Computational Physics* 313, 352-366, 2016. <http://dx.doi.org/10.1016/j.jcp.2016.02.046>
- Kattwinkel, M., Reichert, P., Rüegg, J., Liess, M. and Schuwirth, N. Modelling macroinvertebrate community dynamics in stream mesocosms contaminated with pesticide. *Environmental Science & Technology* 50, 3165–3173, 2016. <http://dx.doi.org/10.1021/acs.est.5b04068>
- Machac, D., Reichert, P., Rieckermann, J. and Albert, C. Fast mechanism-based emulator of a slow urban hydrodynamic drainage simulator. *Environmental Modelling & Software* 78, 54-67, 2016. <http://dx.doi.org/10.1016/j.envsoft.2015.12.007>
- Schuwirth, N., Dietzel, A. and Reichert, P. The importance of biotic interactions for the prediction of macroinvertebrate communities under multiple stressors. *Functional Ecology* 30, 974–984, 2015. <http://dx.doi.org/10.1111/1365-2435.12605> (open access)
- Scholten, L., Schuwirth, N., Reichert, P. and Lienert, J. Tackling uncertainty in multi-criteria decision analysis – An application to water supply infrastructure planning. *European Journal of Operational Research* 242(1), 243-260, 2015. <http://dx.doi.org/10.1016/j.ejor.2014.09.044>
- Reichert, P., Langhans, S., Lienert, J. and Schuwirth, N. The Conceptual Foundation of Environmental Decision Support. *Journal of Environmental Management* 154, 316-332, 2015. <http://dx.doi.org/10.1016/j.jenvman.2015.01.053> (open access)
- Del Giudice, D., Reichert, P., Bares, V., Albert, C. and Rieckermann, J. Model bias and complexity – Understanding the effects of structural deficits and input errors on runoff predictions. *Environmental Modelling & Software* 64, 205-214, 2015. <http://dx.doi.org/10.1016/j.envsoft.2014.11.006>
- Rinderknecht, S.L., Albert, C., Borsuk, M.E., Schuwirth, N., Künsch, H.R. and Reichert, P. The effect of ambiguous prior knowledge on Bayesian model parameter inference and prediction. *Environmental Modelling & Software*. 62, 300-315, 2014. <http://dx.doi.org/10.1016/j.envsoft.2014.08.020>
- Dietzel, A. and Reichert, P. Bayesian inference of a lake water quality model by emulating its posterior density. *Water Resources Research* 50, 7626-7647, 2014. <http://dx.doi.org/10.1002/2012WR013086>
- Reichert, C., Reichert, P., Monnet-Tschudi, F., Kupferschmidt, H., Ceschi, A., and Rauber-Lüthy, C. Seizures after single-agent overdose with pharmaceuticals: Analysis of cases reported to a poison centre. *Clinical Toxicology* 52(6), 629-634, 2014. <http://dx.doi.org/10.3109/15563650.2014.918627>
- Langhans, S.D., Reichert, P. and Schuwirth, N. The method matters: A guide for indicator aggregation in ecological assessments. *Ecological Indicators* 45, 494-507, 2014. <http://dx.doi.org/10.1016/j.ecolind.2014.05.014>
- Scholten, L., Scheidegger, A., Reichert, P., Maurer, Max and Lienert, J. Strategic rehabilitation planning of piped water networks using multi-criteria decision analysis. *Water Research* 49, 124-143, 2014. <http://dx.doi.org/10.1016/j.watres.2013.11.017>
- Egger, C., Scheidegger, A., Reichert, P. and Maurer, M. Sewer deterioration modeling with condition data lacking historical records. *Water Research* 47, 6762-6779, 2013. <http://dx.doi.org/10.1016/j.watres.2013.09.010>

- Del Giudice, D., Honti, M., Scheidegger, A., Albert, C., Reichert, P. and Rieckermann, J. Improving uncertainty estimation in urban hydrological modeling by statistically describing bias. *Hydrol. Earth Syst. Sci.* 17, 4209–4225, 2013. <http://dx.doi.org/10.5194/hess-17-4209-2013> (open access)
- Honti, M., Stamm, C. and Reichert, P., Integrated uncertainty assessment of discharge predictions with a statistical error model, *Water Resources Research*, 49, 4866–4884, 2013. <http://dx.doi.org/10.1002/wrcr.20374>
- Reichert, P., Schuwirth, N. and Langhans, S. Constructing, evaluating and visualizing value and utility functions for decision support, *Environmental Modelling & Software* 46, 283-291, 2013. <http://dx.doi.org/10.1016/j.envsoft.2013.01.017>
- Scheidegger, A., Scholten, L., Maurer, M. and Reichert, P. Extension of pipe failure models to consider the absence of data from replaced pipes, *Water Research* 47, 3696-3705, 2013. <http://dx.doi.org/10.1016/j.watres.2013.04.017>
- Langhans, S.D., Lienert, J., Schuwirth, N. and Reichert, P. How to make river assessments comparable: A demonstration for hydromorphology, *Ecological Indicators* 32, 264-275, 2013. <http://dx.doi.org/10.1016/j.ecolind.2013.03.027>
- Scholten, L., Scheidegger, A., Reichert, P. and Maurer, M. Combining expert knowledge and local data for improved service life modeling of water supply networks. *Environmental Modelling & Software*, 42, 1-16, 2013. <http://dx.doi.org/10.1016/j.envsoft.2012.11.013>
- Schuwirth, N. and Reichert, P. Bridging the gap between theoretical ecology and real ecosystems: modeling invertebrate community composition in streams, *Ecology* 94(2), 368-379, 2013. <http://dx.doi.org/10.1890/12-0591.1>
- Dietzel, A., Mieleitner, J., Kardaetz, S. and Reichert, P. Effects of changes in the driving forces on water quality and plankton dynamics in three Swiss lakes - long-term simulations with BELAMO. *Freshwater Biology* 58, 10–35, 2013. <http://dx.doi.org/10.1111/fwb.12031>
- Dietzel, A. and Reichert, P. Calibration of computationally demanding and structurally uncertain models with an application to a lake water quality model. *Environmental Modelling & Software* 38, 129-146, 2012. <http://dx.doi.org/10.1016/j.envsoft.2012.05.007>
- Reichert, P. and Schuwirth, N. Linking statistical description of bias to multi-objective model calibration. *Water Resources Research*, 48, W09543, 2012. <http://dx.doi.org/10.1029/2011WR011391> (open access)
- Borsuk, M.E., Schweizer, S. and Reichert, P. A probability network model for integrative river rehabilitation planning and management. *Integrated Environmental Assessment and Management* 8(3), 462-472, 2012. <http://dx.doi.org/10.1002/ieam.233> (open access)
- Rinderknecht, S. L., Borsuk, M. E. and Reichert, P. Bridging Uncertain and Ambiguous Knowledge with Imprecise Probabilities, *Environmental Modelling & Software* 36, 122-130, 2012. <http://dx.doi.org/10.1016/j.envsoft.2011.07.022>
- Hering, J.G., Hoehn, E., Klinke, A., Maurer, M., Peter, A., Reichert, P., Robinson, C., Schirmer, K., Schirmer, M., Stamm, C. and Wehrli, B. Moving targets, long-lived infrastructure, and increasing needs for integration and adaptation in water management: An illustration from Switzerland. *Environmental Science & Technology* 46(1), 112-118, 2012. <http://dx.doi.org/10.1021/es202189s> (open access)
- Schuwirth, N., Reichert, P. and Lienert, J. Methodological aspects of multi-criteria decision analysis for policy support: A case study on pharmaceutical removal from hospital wastewater. *European Journal of Operational Research* 220, 472-483, 2012. <http://dx.doi.org/10.1016/j.ejor.2012.01.055>
- Albert, C., Ashauer, R., Künsch, H.R., Reichert, P., Bayesian experimental design for a toxicokinetic-toxicodynamic model. *Journal of Statistical Planning and Inference* 142, 263-275, 2012. <http://dx.doi.org/10.1016/j.jspi.2011.07.014>
- Frey, M.P., Stamm, C., Schneider, M.K. and Reichert, P. Using discharge data to reduce structural deficits in a hydrological model with a Bayesian inference approach and the implications for the prediction of critical source areas. *Water Resources Research* 47, W12529, 2011. <http://dx.doi.org/10.1029/2010WR009993> (open access)
- Trudel, D., Tlustos, C., von Götz, N., Scheringer, M., Reichert, P. and Hungerbühler, K.. Exposure of the Irish population to PBDEs in food: Consideration of parameter uncertainty and variability for risk assessment. *Food Additives and Contaminants* 28(7), 943-955, 2011. <http://dx.doi.org/10.1080/19440049.2011.572082>
- Rinderknecht, S.L., Borsuk, M.E. and Reichert, P. Eliciting Density Ratio Classes. *International Journal of Approximate Reasoning* 52, 792-804, 2011. <http://dx.doi.org/10.1016/j.ijar.2011.02.002> (open access)
- Reichert, P., White, G., Bayarri, M.J. and Pitman, E.B., Mechanism-based emulation of dynamic simulation models: Concept and application in hydrology. *Computational Statistics and Data Analysis*, 55, 1638–1655, 2011. <http://dx.doi.org/10.1016/j.csda.2010.10.011>

- Schuwirth, N., Acuña, V., Reichert, P., Development of a mechanistic model (ERIMO-I) for analyzing the temporal dynamics of the benthic community of an intermittent Mediterranean stream, *Ecological Modelling*, 222, 91-104, 2011. <http://dx.doi.org/10.1016/j.ecolmodel.2010.09.013>
- Reichert, P. and Schuwirth, N., A generic framework for deriving process stoichiometry in environmental models, *Environmental Modelling & Software*, 25, 1241-1251, 2010. <http://dx.doi.org/10.1016/j.envsoft.2010.03.002>
- Rieckermann, J., Borsuk, M.E., Sydler, D., Gujer, W. and Reichert, P., Bayesian experimental design of tracer studies to monitor wastewater leakage from sewer networks, *Water Resources Research*, 46, W08513, 2010. <http://dx.doi.org/10.1029/2009WR008630> (open access)
- Siber, R., Stamm, C. and Reichert, P., Modeling potential herbicide loss to surface waters on the Swiss Plateau, *Journal of Environmental Management* 91, 290-302, 2009. <http://dx.doi.org/10.1016/j.jenvman.2009.08.019>
- Ingendahl, D., Borchardt, D., Saenger, N. and Reichert, P., Vertical hydraulic exchange and the contribution of hyporheic community respiration to whole ecosystem respiration in the River Lahn, (Germany), *Aquatic Sciences* 71, 399-410, 2009. <http://dx.doi.org/10.1007/s00027-009-0116-0>
- Reichert, P., Uehlinger, U. and Acuña V., Estimating stream metabolism from oxygen concentrations: The effect of spatial heterogeneity, *Journal of Geophysical Research* 114, G03016, 2009. <http://dx.doi.org/10.1029/2008JG000917> (open access)
- Reichert, P., and Mieleitner, J., Analyzing input and structural uncertainty of nonlinear dynamic models with stochastic, time-dependent parameters, *Water Resources Research*, 45, W10402, 2009. <http://dx.doi.org/10.1029/2009WR007814> (open access)
- Tomassini, L., Reichert, P., Künsch, H.-R. Buser, C., Knutti, R. and Borsuk, M.E., A smoothing algorithm for estimating stochastic, continuous-time model parameters and its application to a simple climate model, *Journal of the Royal Statistical Society: Series C (Applied Statistics)* 58, 679-704, 2009. <http://dx.doi.org/10.1111/j.1467-9876.2009.00678.x>
- Dittrich, M., Wehrli, B. and Reichert, P., Lake sediments during the transient eutrophication period: reactive-transport model and identifiability study, *Ecological Modelling* 220(20), 2751-2769, 2009. <http://dx.doi.org/10.1016/j.ecolmodel.2009.07.015>
- Frey, M.P., Schneider, M.K., Dietzel, A., Reichert, P. and Stamm, C., Predicting critical source areas for diffuse herbicide losses to surface waters: Role of connectivity and boundary conditions. *Journal of Hydrology* 365, 23-36, 2009. <http://dx.doi.org/10.1016/j.jhydrol.2008.11.015>
- Reichert, P. and Mieleitner, J. Lake Models. In: Sven Erik Jørgensen and Brian D. Fath (Editor-in-Chief), *Ecological Models*. Vol. [3] of *Encyclopedia of Ecology*, 5 vols. pp. [2068-2080] Oxford: Elsevier, 2008.
- Yang, J., Reichert, P., Abbaspour, K.C., Xia, J. and Yang, H., Comparing uncertainty analysis techniques for a SWAT application to the Chaohe Basin in China, *Journal of Hydrology* 258, 1-23, 2008. <http://dx.doi.org/10.1016/j.jhydrol.2008.05.012>
- Schuwirth, N., Kühni, M., Schweizer, S., Uehlinger, U. and Reichert, P., A mechanistic model of benthos community dynamics in the River Sihl, Switzerland, *Freshwater Biology*, 53, 1372-1392, 2008. <http://dx.doi.org/10.1111/j.1365-2427.2008.01970.x>
- Mieleitner, J., Borsuk, M.E., Bürgi, H.-R. and Reichert, P., Identifying functional groups of phytoplankton using data of three lakes of different trophic state, *Aquatic Sciences* 70(1), 30-46, 2008. <http://dx.doi.org/10.1007/s00027-007-0940-z>
- Mieleitner, J. and Reichert, P., Modelling functional groups of phytoplankton in three lakes of different trophic state, *Ecological Modelling* 211, 279-291, 2008. <http://dx.doi.org/10.1016/j.ecolmodel.2007.09.010>
- Yang, J., Reichert, P. and Abbaspour, K.C., Bayesian uncertainty analysis in distributed hydrologic modelling: A case study in the Thur river basin, Switzerland, *Water Resources Research*, 43, W10401, 2007. <http://dx.doi.org/10.1029/2006WR005497> (open access)
- Tomassini, L., Reichert, P., Knutti, R., Stocker, T.F. and Borsuk, M.E., Robust Bayesian uncertainty analysis of climate system properties using Markov chain Monte Carlo methods, *Journal of Climate* 20, 1239-1254, 2007. <http://dx.doi.org/10.1175/JCLI4064.1> (open access)
- Yang, J., Reichert, P., Abbaspour, K.C. and Yang, H., Hydrological modelling of the Chaohe Basin in China: Statistical model formulation and Bayesian inference, *Journal of Hydrology* 340, 167-182, 2007. <http://dx.doi.org/10.1016/j.jhydrol.2007.04.006>
- Schweizer, S., Borsuk, M. and Reichert, P., Predicting the morphological and hydraulic consequences of river rehabilitation, *River Research and Applications* 23(3), 303-322, 2007. <http://dx.doi.org/10.1002/rra.981>
- Schweizer, S., Borsuk, M., Jowett, I. and Reichert, P., Predicting joint frequency distributions of depth and velocity for instream habitat assessment, *River Research and Applications* 23(3), 287-303, 2007. <http://dx.doi.org/10.1002/rra.980>

- Spörri, C., Borsuk, M., Peters, I. and Reichert, P., The economic impacts of river rehabilitation: a regional input-output analysis, *Ecological Economics* 62, 341-351, 2007. <http://dx.doi.org/10.1016/j.ecolecon.2006.07.001>
- Reichert, P., Borsuk, M., Hostmann, M., Schweizer, S., Spörri, C., Tockner, K. and Truffer, B., Concepts of decision support for river rehabilitation, *Environmental Modelling and Software* 22, 188-201, 2007. <http://dx.doi.org/10.1016/j.envsoft.2005.07.017>
- Zobrist, J. and Reichert, P., Bayesian estimation of export coefficients from diffuse and point sources in Swiss watersheds, *Journal of Hydrology*, 329, 207-223, 2006. <http://dx.doi.org/10.1016/j.jhydrol.2006.02.014>
- Reichert, P., A standard interface between simulation programs and systems analysis software, *Water Science and Technology* 53(1), 267-275, 2006. <http://wst.iwaponline.com/content/53/1/267> (open access)
- Mieleitner, J. and Reichert, P., Analysis of the transferability of a biogeochemical lake model to lakes of different trophic state, *Ecological Modelling* 194, 49-61, 2006. <http://dx.doi.org/10.1016/j.ecolmodel.2005.10.039>
- Borsuk, M.E., Reichert, P., Peter, A., Schager, E. and Burkhardt-Holm, P., Assessing the decline of brown trout (*Salmo trutta*) in Swiss rivers using a Bayesian probability network, *Ecological Modelling* 192, 224-244, 2006. <http://dx.doi.org/10.1016/j.ecolmodel.2005.07.006>
- Hostmann, M., Bernauer, T., Mosler, H.-J., Reichert, P. and Truffer, B., Multi-attribute value theory as a framework for conflict resolution in river rehabilitation, *Journal of Multi Criteria Decision Analysis* 13, 91-102, 2005. <http://dx.doi.org/10.1002/mcda.375>
- Rieckermann, J., Borsuk, M.E., Reichert, P. and Gujer, W., A novel tracer method for estimating sewer exfiltration, *Water Resources Research* 41(5), Art. No. W05013, 2005. <http://dx.doi.org/10.1029/2004WR003699> (open access)
- Hostmann, M., Borsuk, M.E., Reichert, P. and Truffer, B., Stakeholder values in decision support for river rehabilitation, *Archiv für Hydrobiologie*, Supplement Volume 155(1-4), 491-505, 2005. <http://dx.doi.org/10.1127/lr/15/2003/491>
- Reichert, P. and Borsuk, M.E., Does high forecast uncertainty preclude effective decision support?, *Environmental Modelling and Software* 20(8), 991-1001, 2005. <http://dx.doi.org/10.1016/j.envsoft.2004.10.005>
- Meier, W.K. and Reichert, P., Mountain streams – modelling hydraulics and substance transport, *Journal of Environmental Engineering* 131(2), 252-261, 2005. [http://dx.doi.org/10.1061/\(ASCE\)0733-9372\(2005\)131:2\(252\)](http://dx.doi.org/10.1061/(ASCE)0733-9372(2005)131:2(252))
- Reichert, P. and Wehrli, B. Modelling Organic Phosphorus Transformation in Aquatic Systems. Chapter 16 of Turner, B.L., Frossard, E. and Baldwin, D., eds., *Organic Phosphorus in the Environment*, CABI Publishing, Wallingford, UK, 2005. <http://dx.doi.org/10.1079/9780851998220.0349>
- Meier, W.K., Bonjour, C., Wüest, A. and Reichert, P., Modelling the effect of water diversion on the temperature of mountain streams, *Journal of Environmental Engineering* 129(8), 755-764, 2003. [http://dx.doi.org/10.1061/\(ASCE\)0733-9372\(2003\)129:8\(755\)](http://dx.doi.org/10.1061/(ASCE)0733-9372(2003)129:8(755))
- Lehmann, M.F., Reichert, P., Bernasconi, F.M., Barbieri, A. and McKenzie, J.A., Modelling nitrogen and oxygen isotope fractionation during nitrate reduction in a hypolimnetic redox-transition zone, *Geochimica et Cosmochimica Acta* 67(14), 2529-2542, 2003. [http://dx.doi.org/10.1016/S0016-7037\(03\)00085-1](http://dx.doi.org/10.1016/S0016-7037(03)00085-1)
- Yang, H., Reichert, P., Abbaspour, K.A. and Zehnder, A.J.B., A water resources threshold and its implications for food security, *Environmental Science & Technology* 37(14), 3048-3054, 2003. <http://dx.doi.org/10.1021/es0263689> (open access)
- Reichert, P., Schervish, M. and Small, M.J., An efficient sampling technique for Bayesian inference with computationally demanding models, *Technometrics* 44(4), 318-327, 2002. <http://dx.doi.org/10.1198/004017002188618518> (open access)
- Brun, R., Kühni, M., Siegrist, H.R., Gujer, W. and Reichert, P., Practical identifiability of ASM2d parameters – systematic selection and tuning of parameter subsets, *Water Research* 36(16), 4113-4127, 2002. [http://dx.doi.org/10.1016/S0043-1354\(02\)00104-5](http://dx.doi.org/10.1016/S0043-1354(02)00104-5)
- Omlin, M., Reichert, P. and Forster, R., Biogeochemical model of lake Zürich: Model equations and results, *Ecological Modelling* 141(1-3), 77-103, 2001. [http://dx.doi.org/10.1016/S0304-3800\(01\)00256-3](http://dx.doi.org/10.1016/S0304-3800(01)00256-3)
- Omlin, M., Brun, R. and Reichert, P., Biogeochemical model of lake Zürich: Sensitivity, identifiability and uncertainty analysis, *Ecological Modelling* 141(1-3), 105-123, 2001. [http://dx.doi.org/10.1016/S0304-3800\(01\)00257-5](http://dx.doi.org/10.1016/S0304-3800(01)00257-5)
- Brun, R., Reichert, P. and Künsch, H.R., Practical identifiability analysis of large environmental simulation models, *Water Resources Research* 37(4), 1015-1030, 2001. <http://dx.doi.org/10.1029/2000WR900350> (open access)

- Reichert, P. and Vanrolleghem, P., Identifiability and uncertainty analysis of the river water quality model no. 1 (RWQM1), *Water Sci. Tech.* 43(7), 329-338, 2001. <http://wst.iwaponline.com/content/43/7/329> (open access)
- Shanahan, P., Borchardt, D., Henze, M., Rauch, W., Reichert, P., Somlyódy, L. and Vanrolleghem, P., River Water Quality Model no. 1 (RWQM1): I. Modelling approach, *Water Sci. Tech.* 43(5), 1-9, 2001. <http://wst.iwaponline.com/content/43/5/1> (open access)
- Reichert, P., Borchardt, D., Henze, M., Rauch, W., Shanahan, P., Somlyódy, L. and Vanrolleghem, P., River Water Quality Model no. 1 (RWQM1): II. Biochemical process equations, *Water Sci. Tech.* 43(5), 11-30, 2001. <http://wst.iwaponline.com/content/43/5/11> (open access)
- Vanrolleghem, P., Borchardt, D., Henze, M., Rauch, W., Reichert, P., Shanahan, P. and Somlyódy, L., River Water Quality Model no. 1 (RWQM1): III. Biochemical submodel selection, *Water Sci. Tech.* 43(5), 31-40, 2001. <http://wst.iwaponline.com/content/43/5/31> (open access)
- Borchardt, D., and Reichert, P., River Water Quality Model no. 1: Case study I. Compartmentalisation approach applied to oxygen balances in the River Lahn (Germany), *Water Sci. Tech.* 43(5), 41-49, 2001. <http://wst.iwaponline.com/content/43/5/41> (open access)
- Reichert, P., River Water Quality Model no. 1: Case study II. Oxygen and nitrogen conversion processes in the River Glatt, *Water Sci. Tech.* 43(5), 51-60, 2001. <http://wst.iwaponline.com/content/43/5/51> (open access)
- Uehlinger, U., König, Ch. and Reichert, P., Variability of photosynthesis-irradiance curves and ecosystem respiration in a small river, *Freshwater Biology* 44, 493-507, 2000. <http://dx.doi.org/10.1046/j.1365-2427.2000.00602.x>
- Omlin, M. and Reichert, P., A comparison of techniques for the estimation of model prediction uncertainty, *Ecological Modelling* 115(1), 45-59, 1999. [http://dx.doi.org/10.1016/S0304-3800\(98\)00174-4](http://dx.doi.org/10.1016/S0304-3800(98)00174-4)
- Rauch, W., Henze, M., Koncsos, L., Reichert, P., Shanahan, P., Somlyódy, L. and Vanrolleghem, P., River water quality modeling: I. State of the art, *Water Sci. Tech.* 38(11), 237-244, 1998. <http://wst.iwaponline.com/content/38/11/237> (open access)
- Shanahan, P., Henze, M., Koncsos, L., Rauch, W., Reichert, P., Somlyódy, L. and Vanrolleghem, P., River water quality modeling: II. Problems of the art, *Water Sci. Tech.* 38(11), 245-252, 1998. <http://wst.iwaponline.com/content/38/11/245> (open access)
- Somlyódy, L., Henze, M., Koncsos, L., Rauch, W., Reichert, P., Shanahan, P. and Vanrolleghem, P., River water quality modeling: III. Future of the art, *Water Sci. Tech.* 38(11), 253-260, 1998. <http://wst.iwaponline.com/content/38/11/253> (open access)
- Fesch, C., Simon, W., Haderlein, St.B., Reichert, P. and Schwarzenbach, R.P., Nonlinear sorption and nonequilibrium solute transport in aggregated porous media: Experiments, process identification and modeling, *Journal of Contaminant Hydrology* 31(3-4), 373-407, 1998. [http://dx.doi.org/10.1016/S0169-7722\(97\)00078-8](http://dx.doi.org/10.1016/S0169-7722(97)00078-8)
- Carstensen, J., Vanrolleghem, P., Rauch, W. and Reichert, P., Terminology and methodology in modelling for water quality management - a discussion starter, *Water Sci. Tech.* 36(5), 157-168, 1997. <http://wst.iwaponline.com/content/36/5/157> (open access)
- Reichert, P., On the necessity of using imprecise probabilities for modelling environmental systems, *Water Sci. Tech.* 36(5), 149-156, 1997. <http://wst.iwaponline.com/content/36/5/149> (open access)
- Simon, W., Reichert, P. and Hinz, Ch., Properties of exact and approximate travelling wave solutions for transport with nonlinear and nonequilibrium sorption, *Water Resources Research* 33(5), 1139-1147, 1997. <http://dx.doi.org/10.1029/97WR00301> (open access)
- Reichert, P. and Wanner, O., Movement of solids in biofilms: Significance of liquid phase transport, *Water Sci. Tech.* 36(1), 321-328, 1997. <http://wst.iwaponline.com/content/36/1/321> (open access)
- Reichert, P. and Omlin, M., On the usefulness of overparameterized ecological models, *Ecological Modelling* 95, 289-299, 1997. [http://dx.doi.org/10.1016/S0304-3800\(96\)00043-9](http://dx.doi.org/10.1016/S0304-3800(96)00043-9)
- Uehlinger U., Bühler H. and Reichert P., Periphyton dynamics in a floodprone prealpine river: Evaluation of significant processes by modelling, *Freshwater Biology* 36, 249-263, 1996. <http://dx.doi.org/10.1046/j.1365-2427.1996.00082.x>
- Wanner O. and Reichert P., Mathematical modeling of mixed-culture biofilms, *Biotechnology & Bioengineering* 49, 172-184, 1996. [http://dx.doi.org/10.1002/\(SICI\)1097-0290\(19960120\)49:2<172::AID-BIT6>3.0.CO;2-N](http://dx.doi.org/10.1002/(SICI)1097-0290(19960120)49:2<172::AID-BIT6>3.0.CO;2-N)
- Reichert P., Design techniques of a computer program for the identification of processes and the simulation of water quality in aquatic systems, *Environmental Software* 10(3), 199-210, 1995. [http://dx.doi.org/10.1016/0266-9838\(95\)00010-I](http://dx.doi.org/10.1016/0266-9838(95)00010-I)

- Albrecht A., Reichert P., Beer J. and Lück A., Evaluation of the importance of reservoir sediments as sinks for reactor-derived radionuclides in riverine systems, *Journal of Environmental Radioactivity*, 28(3), 239-269, 1995. [http://dx.doi.org/10.1016/0265-931X\(95\)00002-R](http://dx.doi.org/10.1016/0265-931X(95)00002-R)
- Reichert P., von Schulthess R. and Wild D., The use of AQUASIM for estimating parameters of activated sludge models, *Water Sci. Tech.* 31(2), 135-147, 1995. [http://dx.doi.org/10.1016/0273-1223\(95\)00187-R](http://dx.doi.org/10.1016/0273-1223(95)00187-R)
- Reichert P., AQUASIM - A tool for simulation and data analysis of aquatic systems, *Water Sci. Tech.* 30(2), 21-30, 1994. <http://wst.iwaponline.com/content/30/2/21> (open access)
- Wanner O., Debus O. and Reichert P., Modelling the spatial distribution and dynamics of a xylene-degrading microbial population in a membrane-bound biofilm, *Water Sci. Tech.* 29(10-11), 243-251, 1994. <http://wst.iwaponline.com/content/29/10-11/243> (open access)
- Cirpka O., Reichert P., Wanner O., Müller S.R. and Schwarzenbach R.P., Gas exchange at river cascades: Field experiments and model calculations, *Environ. Sci. Technol.* 27(10), 2086-2097, 1993. <http://dx.doi.org/10.1021/es00047a014>
- Heitzer A., Kohler H.P., Reichert P. and Hamer G., Utility of phenomenological models for describing temperature dependence of bacterial growth, *Appl. Environ. Microbiol.* 57(9), 2656-2665, 1991. <http://aem.asm.org/content/57/9/2656.abstract> (open access)
- Reichert P. and Wanner O., Enhanced one-dimensional modeling of transport in rivers, *J. Hyd. Eng.* 117(9), 1165-1183, 1991. [http://dx.doi.org/10.1061/\(ASCE\)0733-9429\(1991\)117:9\(1165\)](http://dx.doi.org/10.1061/(ASCE)0733-9429(1991)117:9(1165))
- Ruchti J., Wanner O. and Reichert P., BIOSIM: Simulation of the dynamics of mixed culture biofilms, *Environ. Software* 6, 29-33, 1991. [http://dx.doi.org/10.1016/0266-9838\(91\)90015-I](http://dx.doi.org/10.1016/0266-9838(91)90015-I)
- Wanner O., Egli T., Fleischmann T., Lanz K., Reichert P. and Schwarzenbach R.P., Behavior of the insecticides Disulfoton and Thiometon in the Rhine river: A chemodynamic study, *Environ. Sci. Technol.* 23(10), 1232-1242, 1989. <http://dx.doi.org/10.1021/es00068a007>
- Capel P.D., Giger W., Reichert P. and Wanner O., Accidental input of pesticides into the Rhine river, *Environ. Sci. Technol.* 22(9), 992-997, 1988. <http://dx.doi.org/10.1021/es00174a001>
- Schilling R. and Reichert P., Do spatially chaotic configurations possess glass-like properties?, *J. Non-Crystalline Solids* 75, 129-134, 1985. [http://dx.doi.org/10.1016/0022-3093\(85\)90213-3](http://dx.doi.org/10.1016/0022-3093(85)90213-3)
- Reichert P. and Schilling R., Glasslike properties of a chain of particles with anharmonic and competing interactions, *Phys. Rev. B* 32(9), 5731-5746, 1985. <http://dx.doi.org/10.1103/PhysRevB.32.5731>
- Reichert P. and Schilling R., A local limit theorem for strongly dependent random variables and its application to a chaotic configuration of atoms, *J. Math. Phys.* 26(6), 1165-1172, 1985. <http://dx.doi.org/10.1063/1.526519>
- Reichert P. and Schilling R., Possibility of interpreting amorphicity as spatial chaos, *Phys. Rev. B* 30(2), 917-922, 1984. <http://dx.doi.org/10.1103/PhysRevB.30.917>

Conference proceedings and articles in non-reviewed journals

- Schuwirth, N., Reichert, P., Dietzel, A. and Paillex, A. Mechanistic models can help to disentangle effects of different stressors on the macroinvertebrate community in streams. Proceedings of the REFORM International Conference on River and Stream Restoration “Novel Approaches to Assess and Rehabilitate Modified Rivers”. June 30 – July 2, 2015.
- Paillex, A., Schuwirth, N., Lorenz, A., Januschke, K., Peter, A. and Reichert, P. Quantifying and valuing river restoration effects: Thur and Töss rivers. Proceedings of the REFORM International Conference on River and Stream Restoration “Novel Approaches to Assess and Rehabilitate Modified Rivers”. June 30 – July 2, 2015.
- Reichert, P., Paillex, A. and Schuwirth, N. Evaluation and prioritization of river rehabilitation projects. Proceedings of the REFORM International Conference on River and Stream Restoration “Novel Approaches to Assess and Rehabilitate Modified Rivers”. June 30 – July 2, 2015.
- Reichert, P., Conceptual and practical aspects of quantifying uncertainty in environmental modelling and decision support. In: Seppelt, R., Voinov, A.A., Lange, S., Bankamp, D., (Eds.) (2012): Proceedings of the 2012 International Congress on Environmental Modelling and Software, Managing Resources of a Limited Planet: Pathways and Visions under Uncertainty, Sixth Biennial Meeting, Leipzig, Germany, International Environmental Modelling and Software Society (iEMSs), <http://www.iemss.org/society/index.php/iemss-2012-proceedings>, ISBN: 978-88-9035-742-8, 1013-1020.
- Schuwirth, N., Stamm, Ch. and Reichert, P., Incorporation of uncertainty in decision support to improve water quality. In: Seppelt, R., Voinov, A.A., Lange, S., Bankamp, D., (Eds.) (2012): Proceedings of the 2012 International Congress on Environmental Modelling and Software, Managing Resources of a Limited Planet: Pathways and Visions under Uncertainty, Sixth Biennial Meeting, Leipzig, Germany, International Environmental Modelling and Software Society (iEMSs), <http://www.iemss.org/society/index.php/iemss-2012-proceedings>, ISBN: 978-88-9035-742-8, 1005-1012.

- Siegenthaler – Le Drian, C., Indermaur, L., Peter, A. and Reichert, P. A stochastic trout population model for supporting fish management. In: Seppelt, R., Voinov, A.A., Lange, S., Bankamp, D., (Eds.) (2012): Proceedings of the 2012 International Congress on Environmental Modelling and Software, Managing Resources of a Limited Planet: Pathways and Visions under Uncertainty, Sixth Biennial Meeting, Leipzig, Germany, International Environmental Modelling and Software Society (iEMSs), <http://www.iemss.org/society/index.php/iemss-2012-proceedings>, ISBN: 978-88-9035-742-8: 263-270.
- Schuwirth, N. and Reichert, P., Das Vorkommen von Lebewesen vorhersagen / Predicting the occurrence of macroinvertebrates. *Eawag News* 72d/72e 14-17, 2012.
- Dietzel, A. and Reichert, P. Using statistical bias description for multiobjective calibration of a lake water quality model. In: Swayne, D.A., Yang, W., Voinov, A.A., Rizzoli, A., Filatova, T., eds, *Proceedings of the International Congress on Environmental Modelling and Software*, Fifth Biennial Meeting, Ottawa, Canada, 2010.
- Schuwirth, N. und Reichert, P. Modell für Lebensgemeinschaften in Fließgewässern / Modelling of benthic communities in rivers / Modéliser les communautés biotiques des cours d'eau. *Eawag News* 66d/66e/66f, 19-21, 2009.
- Frey, M.P., Stamm, C., Schneider, M. and Reichert, P. Hydrologische Modellierung zur räumlichen Vorhersage von Flächen, die zur Verschmutzung von Gewässern mit Pflanzenschutzmitteln beitragen. Proceedings des Workshops der Arbeitsgemeinschaft Simulation (ASIM) über Simulation in den Umwelt- und Geowissenschaften, Eawag, Dübendorf, Schweiz, 2008.
- Reichert, P., Borsuk, M., Schweizer, S. and Spörri, C., Die Konsequenzen von Revitalisierungsmassnahmen vorhersagen, *Eawag News* 61d, 21-23, 2006.
- Reichert, P., UNCSIM - A computer programme for statistical inference and sensitivity, identifiability, and uncertainty analysis, In: Teixeira, J.M.F. and Carvalho-Brito, A.E., eds., *Proceedings of the 2005 European Simulation and Modelling Conference (ESM 2005)*, Oct. 24-26, Porto, Portugal, EUROSIS-ETI, pp. 51-55, 2005.
- Mieleitner, J. and Reichert, P., Modelling functional groups of algae in Lake Zürich, In: Teixeira, J.M.F. and Carvalho-Brito, A.E., eds., *Proceedings of the 2005 European Simulation and Modelling Conference (ESM 2005)*, Oct. 24-26, Porto, Portugal, EUROSIS-ETI pp. 256-261, 2005.
- Yang, J., Abbaspour, K.C. and Reichert, P., Interfacing Watershed Models with Systems Analysis Tools: Implementation for SWAT, *Proceedings of the 6th International Symposium on Systems Analysis and Integrated Assessment, Watermatex 2004*, Beijing, Nov. 3-5, 2004.
- Reichert, P., A standard interface between simulation programs and systems analysis software, *Proceedings of the 6th International Symposium on Systems Analysis and Integrated Assessment, Watermatex 2004*, Beijing, Nov. 3-5, 2004.
- Reichert, P., Borsuk, M., Hostmann, M., Schweizer, S., Spörri, C., Tockner, K. and Truffer, B., Concepts of Decision Support for River Rehabilitation. In Pahl-Wostl, C., Schmidt, S. and Jakeman, T. (eds) iEMSs 2004 International Congress: "Complexity and Integrated Resources Management". International Environmental Modelling and Software Society, Osnabrueck, Germany, June 2004, Vol. 2, pp. 550-555.
- Schweizer, S., Borsuk, M.E. and Reichert, P., Predicting the Hydraulic and Morphological Consequences of River Rehabilitation. In Pahl-Wostl, C., Schmidt, S. and Jakeman, T. (eds) iEMSs 2004 International Congress: "Complexity and Integrated Resources Management". International Environmental Modelling and Software Society, Osnabrueck, Germany, June 2004.
- Borsuk, M., Reichert, P. and Burkhardt-Holm, P., A Bayesian Belief Network for Modelling Brown Trout (*Salmo trutta*) Populations in Switzerland. In Pahl-Wostl, C., Schmidt, S. and Jakeman, T. (eds) iEMSs 2004 International Congress: "Complexity and Integrated Resources Management". International Environmental Modelling and Software Society, Osnabrueck, Germany, June 2004.
- Reichert, P. and Borsuk, M.E., "Uncertainty in model predictions: does it preclude effective decision support?", in: Rizzoli, A.E. and Jakeman, A.J., eds., *Proceedings of the conference of the International Environmental Modelling and Software Society*, June 24-27 2002, Lugano, Switzerland, Vol. 2, 43-48, 2002.
- Borsuk, M.E., Burkhardt-Holm, P. and Reichert, P., "A Bayesian network for investigating the decline in fish catch in Switzerland", in: Rizzoli, A.E. and Jakeman, A.J., eds., *Proceedings of the conference of the International Environmental Modelling and Software Society*, June 24-27 2002, Lugano, Switzerland, Vol. 2, 108-113, 2002.
- Pahl-Wostl, C. und Reichert, P., "Wie können Modelle zu Umweltentscheiden beitragen?", *EAWAG news* 47d, 3-5, 1999.
- Omlin, M., Reichert, P. und Forster, R., "Modellierung der Plankton-, Nährstoff- und Sauerstoffdynamik im Zürichsee, *GWA* 1/1999, 44-54, 1999.

- Reichert, P., “Der Nutzen Bayesscher Methoden zur Unsicherheitsschätzung von Modellprognosen”, in: Pohl, Ch. and Ros, M., eds., *Unsicherheit und Ungenauigkeit in ökologischen Bewertungen*, Nachbearbeitung des 3. Ökobilanzen vom 30. Oktober 1996 an der ETH Zürich, Institut für Energietechnik, ETH Zürich, 1997, 33-45.
- Reichert, P., “Environmental system identification and simulation with AQUASIM”, in: Cross, B., ed., *World Directory of Environmental Testing, Monitoring and Treatment 1996/97*, James & James, London, ISBN 1-873936-66-4, 1996, 127-130.
- Reichert, P., Ruchti, J. and Simon, W., “AQUASIM - Computer program for the identification and simulation of aquatic systems”, in: Müller, A., ed., *Hydroinformatics 96*, Volume 2, Balkema, Rotterdam, 835-837, 1996.
- Goudsmit, G.-H., Reichert, P. and Wüest, A., “Modelling of physical and bio-geochemical properties in lakes using AQUASIM”, in: Müller, A., ed., *Hydroinformatics 96*, Volume 2, Balkema, Rotterdam, 779-786, 1996.
- Londong J., Borchardt D., Firk W., Reichert P., Stein M. und Strotmann U., “Nitrit in Fliessgewässern”, Arbeitsbericht der ATV-Arbeitsgruppe 2.1.4 im Fachausschuss 2.1 der Abwassertechnischen Vereinigung (ATV), *Korrespondenz Abwasser* 11/94, 2069-2076, 1994.
- Giger W., Schaffner C., Günter K., Ponusz H., Reichert P. und Wanner O., “Auftreten und Verhalten von NTA und EDTA in schweizerischen Fliessgewässern”, *Mitteilungen der EAWAG* 31, Eidgenössische Anstalt für Wasserversorgung, Abwasserreinigung und Gewässerschutz (EAWAG), CH-8600 Dübendorf, Schweiz, 27-31, 1991.
- Wanner O. und Reichert P., “Wasserqualität bei Regenwetter - Modellierung des Partikeltransportes”, *Mitteilungen der EAWAG* 32, Eidgenössische Anstalt für Wasserversorgung, Abwasserreinigung und Gewässerschutz (EAWAG), CH-8600 Dübendorf, Schweiz, 36-39, 1991.
- Reichert P. und Wanner O., “Modellierung des Stickstoffhaushaltes in Fliessgewässern”, *Mitteilungen der EAWAG* 30, Eidgenössische Anstalt für Wasserversorgung, Abwasserreinigung und Gewässerschutz (EAWAG), CH-8600 Dübendorf, Schweiz, 29-32, 1990.
- Reichert P. and Wanner O., “Simulation of a severe case of pollution of the Rhine river”, in: White W.R., ed., *Topics in fluvial hydraulics*, Proceedings of technical session A, XXII IAHR congress, Water Resources Publications, Littleton, USA, 239-244, 1987.
- Reichert P. and Wanner O., “Storm event in the Glatt river valley - II. Data analysis by use of a mathematical model”, in: *Urban storm water quality and effects upon receiving waters*, TNO committee on hydrological research, Proceedings and Information No. 36, The Hague, 251-265, 1986.

Reports

- Reichert, P., Paillex, A., Schuwirth, N., Schirmer, M., Brouwer, R., Garcia de Jalon, D., Smith, M., Angelopoulos, N., Cowx, I., Wolter, C. and Verdonschot, P. REFORM Deliverable 5.4: Risks and Uncertainty in River Rehabilitation. 2015. <http://www.reformrivers.eu>
- Brouwer, R., Kuik, O., Sheremet, O., Jiang, Y., Brands, D., Gerdes, H., Lago, M., Hinzmann, M., Angelopoulos, N., Cowx, I., Nichersu, I., Reichert, P., Logar, I., Paillex, A., Schuwirth, N., Lehtoranta, V., Aroviita, J., Garcia de Jalon, D. and Gonzales del Tanago, M. REFORM Deliverable 5.2: Cost-Effective Restoration Measures that Promote Wider Ecosystem and Societal Benefits. 2015. <http://www.reformrivers.eu>
- Reichert, P., UNCSIM – A Program Package for Statistical Inference and Sensitivity, Identifiability, and Uncertainty Analysis: Tutorial, Swiss Federal Institute of Environmental Science and Technology (EAWAG), CH-8600 Dübendorf, Switzerland, 2004.
- Reichert, P., Borchardt, D., Henze, M., Rauch, W., Shanahan, P., Somlyódy, L. and Vanrolleghem, P., River Water Quality Model No. 1, Scientific and Technical Report No. 12, IWA Publishing, London, 2001.
- Wanner, O., Reichert, P. and Goudsmit, G., *Modelling of Rivers with AQUASIM*, Swiss Federal Institute for Environmental Science and Technology (EAWAG), CH-8600 Dübendorf, Switzerland, 141 p., 1998.
- Reichert, P., *AQUASIM 2.0 – User Manual*, Swiss Federal Institute for Environmental Science and Technology (EAWAG), CH-8600 Dübendorf, Switzerland, 214 p., 1998.
- Reichert, P., *AQUASIM 2.0 – Tutorial*, Swiss Federal Institute for Environmental Science and Technology (EAWAG), CH-8600 Dübendorf, Switzerland, 213 p., 1998.
- Reichert P., *Concepts Underlying a Computer Program for the Identification and Simulation of Aquatic Systems*, Schriftenreihe der EAWAG Nr. 7, Swiss Federal Institute for Environmental Science and Technology (EAWAG), CH-8600 Dübendorf, Switzerland, 386 p., 1994.
- Albrecht A., Beer J., Reichert P. und Lück A., “Verhalten von Radionukliden aus dem Kernkraftwerk Mühleberg in Aare und Bielersee”, in: Bundesamt für Gesundheitswesen, Abteilung Strahlenschutz, ed., *Umweltradioaktivität und Strahlendosen in der Schweiz 1993*, B3.10.1-B3.10.7, 1994.

- Bloesch J., Naef F., Reichert P. und Schilling W., eds., *Hydrologische Abflussmodelle im Dienste des Gewässerschutzes*, Proceedings des Workshops vom 21./22.10.91 EAWAG Dübendorf, Schriftenreihe der EAWAG Nr. 4, Eidgenössische Anstalt für Wasserversorgung, Abwasserreinigung und Gewässerschutz (EAWAG), CH-8600 Dübendorf, Schweiz, 263 p., 1992.
- Reichert P. and Wanner O., *RIVERSIM - Modeling of hydraulics, transport and transformation processes in rivers*, User manual, Swiss Federal Institute for Environmental Science and Technology (EAWAG), CH-8600 Dübendorf, Switzerland, 50 p., 1990.
- Reichert P., Ruchti J. and Wanner O., *BIOSIM - User manual*, Swiss Federal Institute for Environmental Science and Technology (EAWAG), CH-8600 Dübendorf, Switzerland, 55 p., 1989.
- Reichert P., *Amorphizität als räumliches Chaos*, Dissertation Universität Basel, Schweiz, 1985.