

Dr Stefan Krause

Reader in Hydrology

[School of Geography, Earth and Environmental Sciences \(/schools/gees/index.aspx\)](/schools/gees/index.aspx)

Contact details

Telephone **+44 (0)121 414 5535** (tel:+44 121 414 5535)

Email **s.krause@bham.ac.uk** (mailto:s.krause@bham.ac.uk)

University of Birmingham
Edgbaston
Birmingham
B15 2TT
UK



About

Dr Stefan Krause is a Reader in Hydrology in the School of Geography, Earth and Environmental Sciences. His interdisciplinary research group on coupled groundwater and surface water systems investigates the multifaceted impacts of global environmental change on hydrological fluxes, biogeochemical cycling and contaminant transport, and ecohydrological feedback functions in complex landscapes.

Feedback and office hours

Please email for appointments. New term time office hours will be announced soon.

Qualifications

09/2008 – 08/2009: Postgraduate Certificate in Teaching and Learning in Higher Education

04/2005: Dissertation: Dr. rer. nat.

- PhD thesis: "Modelling water balance and nutrient dynamics in a groundwater-influenced catchment of the Havel River" (in German)

10/2000 – 03/2005: PhD student at the Institute for Geo-ecology, University of Potsdam

09/2000: Diploma in Geo-ecology

11/1999 – 08/2000: Research visit and diploma thesis at the Institute for Freshwater Ecology and Inland Fisheries (IGB), Berlin, Germany, Supervisors: Prof. G. Nuetzmann, Prof. A. Bronstert

- Dissertation: "Investigation of subsurface runoff processes in the vadose zone and ground water in the 'North German Lowlands' using simulation models" (in German)

10/1995 – 09/2000: Studies of Geo-ecology at University of Potsdam, German

Biography

02/2014 - : Reader in Hydrology, School of Geography, Earth and Environmental Sciences, University of Birmingham, UK

01/2012 – 02/2014: Senior Lecturer in Water Sciences, School of Geography, Earth and Environmental Sciences, University of Birmingham, UK

10/2007 – 01/2012: Lecturer in Environmental Geoscience at the School of Physical and Geographical Sciences, Keele University, UK

04/2006 – 10/2007: Research Fellow at the "Centre for Sustainable Water Management" of the "Lancaster Environmental Centre", University of Lancaster, (Fellowship of the German Research Council "Hyporheic Zone Processes - Understanding the role of the dynamic impacts of hyporheic zone processes on water balance and nutrient dynamics at the groundwater - surface water interface")

09/2005 – 04/2006: Postdoctoral Research Associate at the "Centre for Sustainable Water Management" of the "Lancaster Environmental Centre", University of Lancaster

07/2005 – 09/2005: Postdoctoral Research Associate at the University of Potsdam, Germany

05/2005 - 07/2005: Postdoctoral Research Associate at the "Centre for Sustainable Water Management" of the "Lancaster Environmental Centre", University of Lancaster

10/2000 – 03/2005: Research Assistant at the Department of Climatology & Hydrology, University of Potsdam, Germany (from 01/2002 – 03/2005 employed in joint research project "River Basin Management at the Havel-River")

01/1999 – 09/1999: Student Research Assistant at the Potsdam Institute for Climate Impact Research

Teaching

MSc - Hydrogeology:

- Surface water Interactions
- Groundwater Management and Exploration
- Environmental Geophysics
- Hydrogeology Dissertations

MSc River and Environmental Management:

- Groundwater-Surface Water Interactions

UG Env. Earth Sciences:

- Natural Hazards
- Resources of the Earth
- Engineering Geology
- Geology Topics
- Env. Geoscience Dissertations

Postgraduate supervision

Postdocs

Phillip Blaen (Leverhulme Trust International Network and BIFoR) "*Where rivers, groundwater and disciplines meet: a hyporheic research network*"

Megan Klaar (NERC) Large woody debris – A river restoration panacea for streambed nitrate attenuation

Karlie McDonald (INTERFACES EU-FP7 ITN) "*Integrated modeling for up-scaling bio-reactivity at interface hotspots*"

Current PhD students

Sophie Comer (2014 -) "*Understanding groundwater controls on microbial metabolic activity, biogeochemical cycling and associated greenhouse gas production in streambed sediments*", NERC CENTA studentship with CASE support from British Geological Survey – BGS, co-supervisors: Daren Goody (BGS), Sarah Bennett (NIGL)

Paul Romeijn (2014 -) "*Aquifer-surface water interfaces as hotspots for interconnected carbon and nitrogen cycling and greenhouse gas production*" EU-FP7 INTERFACES ITN, co-supervisors: D.M. Hannah and E. Marti (CSIC)

Silvia Folegot (2014 -) "*Prediction of drought impacts on thermal and water quality extremes*" European Institute of Technology, Climate Knowledge and Innovation Community (EIT - Climate KIC), co-supervisors: D.M. Hannah and W. Buytaert (Imperial College London)

Roswen Leonard (2013 -) "*The ecohydrological functioning of the Canadian Western Boreal Plain and its response to wildfire*" NERC, co-supervisor: N. Kettridge

Rebwar Nasir (2013 -) "*Geophysical methods for identifying streambed structural heterogeneity and implications for groundwater-surface water exchange flow*" Kurdish-Iraqi Government, co-supervisors: M. Rivett

Liliana Rose (2012 -) "*Combining novel tracer approaches and coupled groundwater-surface water models for quantifying patterns of aquifer-river exchange at sub-catchment scales*" NERC, co-supervisors: D.M. Hannah, J. Fleckenstein (UFZ Leipzig)

Safieh Javadinejad (2012 -) "*Improved river basin management and adaption strategies through better understanding of climate change impacts*", co-supervisors: D.M. Hannah, M. Widmann

Abdul AlJuhani (2012 -) "*Water resource management of urban aquifers and wadi systems in Rhiyadh, Saudi Arabia*", co-supervisors: J. Tellam

Muneera Alharbi M. (2012 -), Impact of climate change on water resources in Saudi Arabia, The Royal Embassy of Saudi Arabia scholarship, co-supervisors D. M. Hannah and M. Widmann

External PhD students

Amaia Maruedo (2014 -) "*Airborne and ground-based up-scaling of findings on groundwater-surface water interactions at aquifer-lake and aquifer-stream interfaces*" EU-FP7 INTERFACES ITN, co-supervisors: Joerg Lewandowski and Gunnar Nuetzmann (IGB-Berlin)

Victor Baranov (2014 -) "*Hot spots of turnover along ventilated burrows of macrozoobenthos*" EU-FP7 INTERFACES ITN, co-supervisors: Joerg Lewandowski and Gunnar Nuetzmann (IGB-Berlin)

Completed PhD students

John Weatherill (2010 - 2014) "*Novel approaches for tracing multi-component reactive transport and contaminant transformation patterns at aquifer-river interfaces*", Environment Agency & EPSAM, co-supervisors: Kevin Voyce (Environment Agency), Nigel Cassidy (Keele University), Sami Ullah (Keele University)

Amir Levy (2010 - 2014) "*The effect of glacier fluctuation on shallow hydrogeological systems of glaciers in South East Iceland*", EPSAM, co-supervisors: Z. Robinson, R. Waller (Keele University)

Research

Dr. Krause's research group investigates the impacts of global environmental change on hydrological fluxes, biogeochemical cycling and contaminant transport, and ecohydrological feedback functions in complex landscapes. His work particularly focuses on the analysis and quantification of multi-component reactive transport processes at aquifer-river interfaces and how these are influenced by changes in land-use and climate.

The research of his group combines novel modelling techniques with the development of innovative experimental technologies for investigating the interlinked cycling of nutrients and reactive transport of contaminants. He is applying novel distributed sensor network technology together with reactive "smart tracers" for investigating interconnected nitrogen and carbon cycling and microbial metabolic activity in reactive "hot-spots" and "hot-moments" at aquifer-river interfaces. His group provides expertise in developing adaptive modelling strategies for coupled simulation of groundwater and surface water flow at catchments scale which are applied for analysing the implications of environmental change on water transport and nutrient conditions in groundwater and surface waters.

In addition to reactive transport and transformation in coupled groundwater-surface water systems, Dr. Krause's research interests extend to the ecohydrological implications of nutrient cycling and contaminant transport at aquifer-river interfaces as well as the development of management strategies and political instruments to promote the attenuation potential in these systems.

Dr Krause has more than ten years experience in leadership and management of interdisciplinary international research projects in ecohydrological process dynamics and biogeochemical cycling at groundwater-surface water interfaces, and a strong record in securing external research funding (> £4.5M by NERC, EPSRC, EU-FP7, RGS-IBG, Environment Agency, Leverhulme Trust, Climate-KIC - EIT, Leibnitz Association, DFG – German Science Foundation).

Research projects:

- Groundwater flooding: Groundwater community recovery following an extreme recharge event (NERC Urgency Grant NE/M005151/1; Co-Investigator (lead

Roehampton University; **£64,578**, 2014)

- Large woody debris – A river restoration panacea for streambed nitrate attenuation? (NERC NE/L003872/1; Principal Investigator; in collaboration with Queen Mary University of London, **£969,754**, 2014-2017)
- Prediction of drought impacts on thermal and water quality extremes. European Climate Knowledge and Innovation Community (EIT - Climate KIC) PhD studentship programme (Principal Investigator, collaboration with Imperial College London, 2013-2016, **£104,381**)
- Where rivers, groundwater and disciplines meet: a hyporheic research network. Leverhulme Trust International Network Grant (Principal Investigator; **£108,574**; 2014-2017)
- Active Distributed Temperature Sensing for high-resolution fluid-flow monitoring in boreholes. NERC TECHNOLOGY PROOF OF CONCEPT NE/L012715/1 (Co-Investigator (lead UEA); **£153,806**; 2014-2015)
- INTERFACES - Ecohydrological interfaces as critical hotspots for transformations of ecosystem exchange fluxes and biogeochemical cycling. (Principal Investigator, FP7-PEOPLE-2013-ITN, 2013-2017, **3.8M €**)
- Senior Visiting Fellowship at the Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany (Principal Investigator 2013 - 2015, **18,000 €**)
- Smart tracers and distributed sensor networks for quantifying the metabolic activity in streambed reactivity hotspots (Principal Investigator, NERC-NE/I016120/1, 2011-2013, **£64,800**)
- Risk assessment and potential for Trichloroethylene attenuation in hyporheic sediments (Principal Investigator, Environment Agency, EPSAM, 2010-2013, **£45,000**)
- “Developing the use of redox sensitive tracers for quantifying metabolic activity in stream sediments” Jacob Blaustein Fund, Zuckerberg Institute for Water Research (Principal Investigator, **£2,200**)
- Quantifying radiation efficiency by FO-DTS (Principal Investigator (joint), iK-Fund, 2011-2012, **£17,800**)
- Royal Society International Travel Grant for attendance of the 3rd International Multidisciplinary Conference on Hydrology and Ecology, Vienna, April 2011 (**£1,130**)
- Novel distributed sensor networks for tracing aquifer-river exchange flow patterns (Principal Investigator EPSRC & RGS/IBG Research Grant, 2009-2010, **£2,960**)
- UK Natural Environment Research Council (NERC) Knowledge Transfer Network on “Groundwater-surface water interactions and hyporheic zone processes” 2007-2009 (Principal Investigator (joint), **£11,000**)
- Implications of groundwater-surface water connectivity for nitrogen transformations in the hyporheic zone (Researcher Co-Investigator, NERC, NE/F006063/1, awarded to Lancaster University, 2008-2011, **£459,000**, left project for starting position at University of Keele)
- Royal Society International Travel Grant for attendance of 8th IAHS Scientific Assembly and the 37th IAH Congress, Hyderabad, India, September 2009 (**£1,920**)
- Hyporheic Zone Processes - Understanding the role of the dynamic impacts of hyporheic zone processes on water balance and nutrient dynamics at the groundwater - surface water interface (Principal Investigator, Fellowship by the German Research Council, DFG, 2006-2007, **60,000 €**)
- Royal Society International Travel Grant for attendance of the International Interdisciplinary Conference on Predictions for Hydrology, Ecology, and Water Resources Management, September 2008 (**£980**)
- WFD 62 - Research to support decision-making about significant damage to groundwater dependent terrestrial ecosystems (Researcher Co-Investigator, Scotland and Northern Ireland Forum for Environmental Research, awarded to CSWM, Lancaster, UK, 2005 – 2006, **£48,000**)
- KLIWA - Climate change impacts on German river basins (Researcher Co-Investigator, German Weather Service, awarded to Potsdam University, 2005-2006, **25,000 €**)
- Management in the Havel River Basin: (Researcher, German Federal Ministry of Education and Research, awarded to University of Potsdam, 2001-2005, **500,000 €**)
- Conference travel grants (last 5 years): CUAHSI Travel Grant 2010 (**\$2,400**); RGS/IBG International Travel Grant 2009 (**£650**); International Association of Hydrology and British Hydrological Society
- Travel Grant 2009 (**£500**); British Hydrological Society Travel Grant 2008 (**£400**); AWM Travel grant 2008 (**£400**)

Other activities

- **Ecohydrology Journal**: Editorial board member since 2011
- **Frontiers in Hydrosphere**: Editorial Board member since 2013
- **Wires Water**: International Advisory Board member since 2013
- **Grundwasser**: Associate Editor since 2013
- **Water Resources Research**: Guest editor for the special issue on: “New modelling approaches and novel experimental technologies for improved understanding of process dynamics at aquifer-surface water interfaces” (2013),
- **Ecohydrology**: Guest editor for the special issue on: “Hydrology – Ecology Interfaces” 4 (4) (2011),
- **Advances in Water Research**: Guest editor for the the special issue on: “Large scale interactions between rivers and aquifers” 33 (11) (2010),
- **Hydrological Processes**: Guest editor for the the special issue on: “Hyporheic Zone Hydrology - Processes at the groundwater - surface water interface” 23 (13) (2009)
- Committee Member of the European Geoscience Union Sub-Divisions on Eco-Hydrology, Wetlands & Estuaries and Catchment Hydrology
- Committee Member of the Hydrogeology Group of the Geological Society of London
- Consultancy activities for international industry projects including: Underground Coal Gasification Partnership (UCGP, Coal India, Clean Coal UK, European Commission), German water resources in a changing climate (German Weather Service)
- Supervision of visiting research students: Project management, coordination and supervision of EU funded (Leonardo Programme) visiting research students and visiting PhD students
- Memberships: European Geoscience Union (EGU), American Geoscience Union (AGU), International Association for Hydrological Sciences (IAHS), International Association of Hydrogeologists (IAH), Society for Freshwater Science (SFS), International Commission on Ground Water (ICGW), International Commission on Water Quality (ICWQ), British Hydrological Society (BHS), Institute for Civil Engineers (ICE), Underground Coal Gasification Association (UCGA), UK Higher Education Academy, H2O-e.V. Charity for water resource management in developing countries

Publications

More than 90 scientific publications, including 46 peer-reviewed journal papers

Scientific publications (peer reviewed):

1. **Krause, S.**, L. Rose, and N. J. Cassidy (2014), Reply to comment by F. Suarez on “Capabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing,” *Water Resour. Res.*, In review

2. Ascott M., **Krause S.**, Sage R. (2014). Refining Conceptual and Numerical Groundwater Models in Areas of Complex Superficial Geology for Abstraction Impact Assessment: A Case Study from the Upper Colne Catchment, UK. *Hydrogeology Journal*. In review
3. Tristram D., Levy A., **Krause S.**, Weatherill J., Waller R., Robinson Z. (2014). Estimating groundwater recharge to an Icelandic lake with dynamically declining water level by Fibre-optic DTS.: *Freshwater Sciences*, In review
4. Levy A., Robinson Z., **Krause S.**, Waller (2014). R. Long-term variability of pro-glacial groundwater-fed systems in an area of glacial retreat, Skeiðarársandur, SE Iceland. *Earth Surface Processes and Landforms*. In review
5. Pinay G., Peiffer S., **Krause S.**, Hannah D.M., Fleckenstein J., Sébilo M. Bishop K., Hubert-Moy L. (2014). Upscaling nitrogen removal capacity from riparian zone to the landscape scale:A new framework. *Ecosystems*, In review
6. Gomez-Velez, J. D., **S. Krause**, and J. L. Wilson (2014). Effect of low-permeability layers on spatial patterns of hyporheic exchange and groundwater upwelling, *Water Resour. Res.*, 50, 5196–5215, doi:10.1002/2013WR015054.
7. **Krause S.**, Klaar M., Hannah D.M., Trimmer M. J. Mant, S. Manning-Jones (2014). The potential of large woody debris to alter biogeochemical processes and ecosystem services in lowland rivers. *WIREs Water* 2014, 1: 263-275. doi: 10.1002/wat2.1019
8. **Krause S.**, Boano F., Cuthbert M., Fleckenstein J., Lewandowski J. (2014). Understanding process dynamics at aquifer-surface water interfaces: An introduction to the special section on new modeling approaches and novel experimental technologies, *Water Resour. Res.*, 50, 1847–1855, doi:10.1002/2013WR014755
9. **Krause S.**, Freer J., Hannah D.M., Howden N., Wagner T., Worrall F. (2014). Transferring Catchment Similarity Concepts to Classifications of Dynamic Biogeochemical Behaviour of River Basins. *Hydrological Processes*. doi: 10.1002/hyp.10093
10. **Krause, S.**, L. Rose, and N. J. Cassidy (2014), Reply to comment by J. S. Selker et al. on “Capabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing,” *Water Resour. Res.*, 50, 5375–5377, doi:10.1002/2013WR015209.
11. J. J. Weatherill, **S. Krause**, K. J. Voyce, F. P. Drifjhout, N. J. Cassidy, A. Pearson. (2014). Delineating the discharge zone of a dissolved trichloroethene plume by a novel nested monitoring approach. *Journal of Contaminant Hydrology*. 158, 38-54
12. Blume T., Lewandowski J., Meinikmann K., **Krause S.** (2013). Upscaling lacustrine groundwater discharge rates by fiber-optic distributed temperature sensing, *Water Resour. Res.*, 49, 7929–7944, doi:10.1002/2012WR013215.
13. **Krause S.** and T. Blume. (2013). Impact of seasonal variability and monitoring mode on the adequacy of fiber-optic distributed temperature sensing at aquifer-river interfaces, *Water Resour. Res.*, 49, 2408–2423, doi:10.1002/wrcr20232.
14. Rose L., **Krause S.**, Cassidy N.J. (2013). Capabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing, *Water Resour. Res.*, 49,1741–1745, doi:10.1002/wrcr.20144.
15. Käser D., Binley A., **Krause S.**, Heathwaite L. (2013) Prospective modelling of 3-D hyporheic exchange based on high-resolution topography and stream elevation. *Hydrological Processes*. Published online, DOI: 10.1002/hyp.9758
16. **Krause S.**, Tecklenburg C., Munz M., Naden E. (2013) Streambed nitrogen cycling beyond the hyporheic zone: Flow controls on horizontal patterns and depth distribution of nitrate and dissolved oxygen in the up-welling groundwater of a lowland river. *J. Geophys. Res. Biogeosci.*, 118, 54–67, doi:10.1029/2012JG002122.
17. **Krause S.**, Taylor S.L., Weatherill J., Levy A., Haffenden A., Cassidy N.J. (2013) Fibre-optic Distributed Temperature Sensing for Characterizing Impacts of Vegetation Coverage on Thermal Patterns. *Ecohydrology Journal*, 6, 754-764, DOI: 10.1002/eco.1296
18. Angermann L., **Krause S.**, Lewandowski J. (2012). Application of heat pulse injections for investigating shallow hyporheic flow in a lowland river, *Water Resour. Res.*, 48, W00P02, doi:10.1029/2012WR012564.
19. **Krause S.**, T. Blume, N.J. Cassidy. (2012) Application of Fibre-optic DTS to identify streambed controls on aquifer-river exchange fluxes in lowland rivers. *Hydrological Processes*, 26 (10), 1589-1592, DOI: 10.1002/hyp.9271
20. **Krause S.**, Munz M., Tecklenburg C., Binley A. (2012) The impact of groundwater forcing on hyporheic exchange - Reply to Comment on Reducing monitoring gaps at the aquifer-river interface *Hydrological Processes*, 26 (10), 1589-1592, DOI: 10.1002/hyp.9271
21. **Krause S.**, Hannah D.M., Fleckenstein J.H., Heppell C.M., Pickup R., Pinay G., Robertson A.L., Wood P.J. (2011) Inter-disciplinary perspectives on processes in the hyporheic zone. *Ecohydrology Journal*. 4(4), 481-499
22. Munz M., **Krause S.**, Tecklenburg C., Binley A., (2011) Reducing monitoring gaps at the aquifer-river interface by modelling groundwater-surface water exchange flow patterns. *Hydrological Processes*, 25 (23), 3547–3562. DOI: 10.1002/hyp.8080
23. **Krause S.**, Hannah D.M., Wood P.J., Sadler J. (2011) Hydrology and Ecology interfaces: processes and interactions in wetland, riparian and groundwater-based ecosystems. *Ecohydrology Journal* 4(4), 476-480
24. **Krause S.**, Hannah D.M., T. Blume. (2011) Heat transport patterns at pool-riffle sequences of an UK lowland stream. *Ecohydrology Journal* 4(4), 549-563, DOI: 10.1002/eco.199
25. Fleckenstein J.H., **Krause S.**, Hannah D.M.H., Boano F. (2010) Groundwater-surface water interactions: New methods and models to improve understanding of processes and dynamics. *Advances in Water Resources*. 33 (11), 1291-1295
26. **Krause S.**, Hannah DM., Fleckenstein JH. (2009) Hyporheic hydrology: interactions at the groundwater-surface water interface. *Hydrological Processes*. 23 (15), 2103-2107
27. **Krause S.**, Heathwaite AL., Binley A., Keenan P. (2009) Nitrate concentration changes along the groundwater – surface water interface of a small Cumbrian river. *Hydrological Processes*. 23 (15), 2195-2211. doi: 10.1002/hyp.7213
28. **Krause S.**, Habeck A., Bronstert A., Zehe E. (2009) The impact of groundwater – surface water interactions on the nitrate retention of a riparian floodplain in North Germany. *Journal of River Basin Management*. 4, 1-14 .
29. Käser D., Binley A., Heathwaite L., **Krause S.** (2009) Spatio-temporal variations of hyporheic flow in a riffle-step-pool sequence. *Hydrological Processes*. 23 (15), 2138 - 2149
30. **Krause S.**, Heathwaite A.L., Miller F., Hulme P., Crowe A. (2008) Groundwater-dependent wetlands in the UK and Ireland: controls, eco-hydrological functions and assessing the likelihood of damage from human activities. *Journal of Water Resources and Management*. 21 (12), 2015-2025, doi:10.1007/s11269-007-9192-x
31. **Krause S.**, Jacobs J., Habeck A., Bronstert A., Zehe E. (2008) Assessing the impact of changes in landuse and management practices on the diffusive pollution and retention of nitrate in a riparian floodplain. *Science of the Total Environment*. 389 (1), 149-164
32. Buytaert, W., Reusser, D., **Krause, S.**, Renaud, J-P, (2008) Why can't we do better than Topmodel? *Hydrological Processes*. 22 (20), 4175 - 4179
33. **Krause S.**, Bronstert A., Zehe (2007) E. Groundwater - surface water interactions in a North German lowland floodplain - implications for the river discharge dynamics and riparian water balance. *Journal of Hydrology*. 47 (3-4), 404-417
34. **Krause S.**, Bronstert A., Zehe E. (2007) Groundwater – surface water exchange fluxes in a pleistocene lowland catchment and the impacts on riparian zone water balance and nitrate conditions. In: *Water Quality and Sediment Behaviour of the Future: Predictions for the 21st Century*. IAHS Publication 314. Wallingford. 98 - 107
35. **Krause S.**, Bronstert A. (2007) Water Balance Simulations and Groundwater - Surface Water – Interactions in a Mesoscale Lowland River Catchment. *Hydrological Processes*, 21, 169 - 184, doi: 10.1002/hyp.6182
36. **Krause S.**, Jacobs J., Bronstert A. (2007) Modelling the impacts of land-use and drainage density on the water balance of a lowland–floodplain landscape in northeast Germany, *Ecological Modelling*. 200 (3-4), 475-492, doi:10.1016/j.ecolmodel.2006.08.015

37. **Krause S.** (2006) Assessing the implications of land management changes on the water balance of lowland floodplains in Northern Germany. *Forum der Geoökologie*. 17 (1), 32-36
38. **Krause S.**, Bronstert A. (2005) An advanced approach for catchment delineation and water balance modelling within wetlands and floodplains. *Advances in Geosciences*. 5, 1-5
39. **Krause S.**, Bronstert A. (2005). Abflussbildungsprozesse und Grundwasser-Oberflächenwasser-Interaktionen in Flachland Einzugsgebieten am Beispiel der Unteren Havel. *Forum für Hydrologie und Wasserbewirtschaftung*. 13, 97-103. (in German)
40. Bronstert A., Biegel M., Habeck A., Itzerott S., Jacobs J., Kneis D., **Krause S.**, Lahmer W., Schanze J., Pfützner B., Schönfelder I. (2005) Bewirtschaftungsmöglichkeiten im Einzugsgebiet der Havel. *Limnologie aktuell*, 11, 204-220 (in German)
41. **Krause S.**, Bronstert A. (2004) Approximation of Groundwater - Surface Water – Interactions in a Mesoscale Lowland River Catchment, *Hydrology: Science & Practice for the 21st Century*, 2004 British Hydrological Society (2), (408-415)
42. **Krause S.**, Bauer A., Morgner M., Bronstert A. (2004) Wasserhaushaltsmodellierung als Beitrag zur Erstellung eines nachhaltigen Flussgebietsmanagements an der Unteren Havel. *Forum für Hydrologie und Wasserbewirtschaftung*, 05/02, 123-128. (in German)
43. **Krause S.**, Bronstert A. (2004). Wasserhaushaltssimulationen unter Einbeziehung von Grundwasser - Oberflächenwasser - Kopplung zur Optimierung szenarienbasierter Handlungsoptionen für ein nachhaltiges Flussgebietsmanagement an der Unteren Havel. In: Ludwig, Reichert, Mauser (Hrsg.) *Neue Methodische Ansätze zur Modellierung der Wasser- und Stoffumsätze in großen Einzugsgebieten*. Kassel University Press, 61-74. (in German)
44. **Krause S.**, Bronstert A. (2003) Beschreibung des Wasserhaushalts an der Unteren Havel als Voraussetzung für ein nachhaltiges Flussgebietsmanagement - Modellierung der Grundwasser - Oberflächenwasser - Interaktionen mittels Modellkopplung. In *Klima - Wasser - Flussgebietsmanagement - im Lichte der Flut*. *Forum für Hydrologie und Wasserbewirtschaftung*, 04, 143-147. (in German)
45. **Krause S.**, Bronstert A. (2002) Gekoppelte Modellierung von Abflussbildung und Oberflächenwasser - Grundwasser - Interaktionen in einem Flachland Einzugsgebiet an der Unteren Havel. In *Flussgebietsmanagement - 6. Workshop zur großskaligen Modellierung in der Hydrologie*, Hennrich, Rode, Bronstert (Hrsg.) Kassel University Press, (33-44). (in German)
46. **Krause S.**, Bronstert A. (2002). Modellierung des Wasserhaushaltes im Gebiet der Unteren Havel - Möglichkeiten der Darstellung der Grundwasser – Oberflächenwasser - Interaktionen mittels Modellkopplung. *Forum für Hydrologie und Wasserbewirtschaftung*, 01, 83-87. (in German)

