

Ursula Solard McKnight

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SCIENTIFIC PROFILE

My background is in aquatic ecohydrology and contaminant hydrogeology, with the aim to generate solutions to complex socio-ecological systems (SES) challenges and ensure the sustainable use of landscapes. My career integrates >15 years of transdisciplinary research dedicated to developing and applying systems thinking approaches to water resources management. My research has focused on investigating the interfaces across systems, initially physically (e.g. contaminant groundwater-surface water interactions), and recently across the environment-society interface (for sustainable water governance). Holistic, multifunctional risk management strategies, including green-blue approaches like Nature-based Solutions, have a key role to play in operationalizing sustainable development policies. Supporting the development of innovative stakeholder engagement tools and knowledge co-creation/transfer along the climate-hydrology-impact modelling chain comprises the focus of my current position at SMHI.

EDUCATION

- 2/2009 **Ph.D. in Applied Geology, *magna cum laude* (Dr. rer. nat.)**
Dissertation title: A System Dynamics Approach for the Integrative Assessment of Contaminated Land Management Options (Supervisors: Prof. Dr. Georg Teutsch; Dr. Michael Finkel)
Center for Applied Geoscience, University of Tübingen, Germany
- 2003-2005 **M.Sc. in Applied Environmental Geoscience**
Center for Applied Geoscience, University of Tübingen, Germany
- 1992-1996 **B.Sc. in Natural Sciences (Genetics)**
Certificate in Environmental Studies
University of Wisconsin-Madison, WI, USA

WORK EXPERIENCE

- 2023- **Scientific leader in Nature-based Solutions/Senior Researcher**, Hydrological Research Unit, Swedish Meteorological and Hydrological Institute
- Hydrology WP co-leader for Destination Earth Weather Extremes Digital Twin (DE_330-MF)
- 2021-2022 **Project Manager/Senior Researcher**, Hydrology Research & Development Unit, Swedish Meteorological and Hydrological Institute
- Project manager for various international research projects (e.g. Copernicus: C3S2_410_Lot2; H2020: HYPOS, DIRT-X, CLINT)
 - Communications outreach and support; Stakeholder engagement
- Research focus: methods development for assessing non-market benefits of nature-based solutions (NBS) for people and interlinkages with nature (biodiversity); upscaling NBS outside cities; decision support systems development to advance stakeholder engagement processes
- 2020-2021 **Associate Editor**, *Journal of Hydrology* - Elsevier

- 2018-2021 **Associate Professor**, Dept. of Environmental Engineering, Technical University of Denmark
- Coordinator/Co-investigator in various national and international transdisciplinary research projects (e.g. H2020: PIANO, RECONNECT; IFD: RIVERSCAPES)
 - Supervision/co-supervision of PhD students and coordination/teaching various MSc/BSc courses
 - Head of Diversity and Inclusion at DTU Environment
- Research focus: development and coupling of innovative hydrological modelling tools with novel stream monitoring approaches to improve stakeholder engagement processes in catchments
- 2014-2018 **Assistant Professor**, Dept. of Environmental Engineering, Technical University of Denmark
- Participating in various national and international transdisciplinary research projects (e.g. H2020 PIANO; IFD GEOCON)
 - Co-supervising PhD students and teaching MSc/BSc courses
- Research focus: development and application of innovative hydrogeological and ecological investigation techniques for characterizing groundwater contamination impacting stream ecosystems
- 2008-2013 **PostDoc**, Dept. of Environmental Engineering, Technical University of Denmark
- Participation on various national transdisciplinary research projects (e.g. IFD RiskPoint)
 - Project Manager for eNviro5Tech, an educational grant that set up a joint Nordic Master's program in the subject area of Environmental Engineering and Technology
 - Project manager for DTU's Signature Project on Integrated Water Technology; with a focus on developing the research collaboration front between DTU and KAIST (S. Korea)
- 2003 **Lab Technician**, Department of Pediatrics, Neonatal Science Lab, Duke University, USA
- PCR; spectroanalysis; tissue cultures; RNA isolation; genotyping; surgery assistant
- 1998-1999 **Lab Technician**, Department of Enzyme Development, Henkel, KGaA, Düsseldorf, Germany
- DNA sequencing; protoplast/electroporation; plasmid construction; 10L fermentation studies
- 1997-2002 **Professional athlete** (soccer)
- Various teams: pre- and post Frauen-Bundesliga creation, Germany; Carolina Courage, USA

MENTORING ACTIVITIES (* indicates student projects as main supervisor)

9 PhD studies, (supervisor team):

- 2019-2023 *Martina Viti. Quantitative Assessment of Human Benefits of Nature Based Solutions. (Karsten Arnbjerg-Nielsen; Roland Löwe)
- 2019-2023 Anna-Ricarda Schittich. Identifying dissolved organic matter (DOM) characteristics driving contaminant fate and biodegradation in aquatic systems. (Barth F. Smets; Colin Stedmon)
- 2018-2022 Christian J. Köppl. Monitoring of rivers and streams with unmanned airborne systems to support the determination of ecological status. (Monica Garcia; Peter Bauer-Gottwein)
- 2018-2021 *Shane Carnohan. Processes, Tools and Frameworks for Improving Water Resources Management. (Poul L. Bjerg)
- 2017-2021 *Greg G. Lemaire. Decision support tools for managing water resources in mixed land use catchments. (Poul L. Bjerg)
- 2014-2019 Vinni K. Rønne. Interdisciplinary tools for identification and quantification of groundwater contamination arising from point sources. (Poul L. Bjerg)

- 2014-2018 Mariú A. Moro. An evolutionary approach to water innovation: Comparing the water innovation systems in China and Europe. (Barth F. Smets; Maj M. Andersen)
- 2013-2017 Anne Th. Sonne. Integrated assessment of chemical stressors and ecological impact in mixed land use stream systems. (Poul L. Bjerg)
- 2010-2015 Nanna I. Thomsen. Contaminated site risk and uncertainty assessment for impacts on surface and groundwater. (Philip J. Binning)

16 MSc theses:

- 2020 *Sebastian Figari Kramer. Novel techniques for identifying pollution pathways and improving characterization of solid-bound contaminants: In situ fluorescence monitoring and ex situ particle settling velocity distribution measurements applied to a Danish peri-urban stream. **Colding Award 2020 for best MSc thesis.**
- 2020 *Jean-Christophe Mayo. Implementing participation for water governance in Denmark: Knowledge co-creation as a means to support the implementation of the European Water Framework Directive (Marko Keskinen, Aalto University, FI)
- 2020 *Stanislav Grand & *Victor Mazel. Systems modelling for water quantity and quality in peri-urban catchments.
- 2019-2020 Filip Floks. Quantification of dilution and volatilization of groundwater contaminant discharges in streams. (Poul L. Bjerg).
- 2019 *Emilie E.C. Ribaucourt. Integrated monitoring of impacts from wet weather discharges to Usserød stream.
- 2018-2019 Ilka Bruhn. Identifying and predicting critical events for stream water quality in Odense. (Roland Löwe; Luca Vezzaro; Karsten Arnbjerg-Nielsen)
- 2018-2019 *Arenfeldt, F. Development of a stream water quality model: A foundation for coupling observation with simulation.
- 2017 Bigi, G. Risk assessing heavy metals in the groundwater-surface water interface at a contaminated site (Rådvad, Denmark). (Poul L. Bjerg)
- 2017 *Schulz, H. Application of the streambed-Point Velocity Probe for investigating contaminant discharge to streams.
- 2017 *Schittich, A.R. Arsenic contamination in Gaighata, India: Sources, distribution and processes affecting arsenic mobilization to groundwater.
- 2016 *Anthonj, J. Development of a decision support system to manage stream water quality across the groundwater-surface water interface (Markus Disse, TUM, DE)
- 2016 *Cominelli, C. Development of a water quality model for the Chindwin river. (Philip J. Binning, Thom Bogaard, TU Delft)
- 2014-2015 Deichmann, M. Policy instruments in groundwater protection: A case study of N-leaching in greenhouse agriculture in China and Denmark. (Suxia Liu, IGSNRR-CAS, PRC)
- 2014 *Rønde, V. Quantification of aquifer-stream contaminant mass discharge using Point Velocity Probes (PVP) at the stream reach scale (Grindsted, Denmark)
- 2011-2012 Villumsen, T. Source identification, transport processes and risk assessment in Vadsby stream. (Poul L. Bjerg)
- 2011 Promio, D. Model for the assessment of the risk of point sources to surface water: development and application (Philip J. Binning)

6 BSc theses:

- 2020 *Laila Vinther & *Cecilie H. Hansen. Screening for contamination in groundwater with fluorescent measurements.
- 2020 *Agnete Nørregaard & *Thea Thiim. Investigating the use of rhodamine WT as a tracer to determine contaminant mixing in streams.
- 2019 Mie Blichfeldt. Identifying indicators for risk reduction measures for natural hazards using nature based solutions for catchments in Århus. (Karsten Arnbjerg-Nielsen).
- 2019 Josefine L.G. Hansen & Anna B. Sørensen. Risk assessment of a contaminated site posing a risk for Nivå stream. (Poul L. Bjerg)
- 2017 *Jensen, I.H. A critical review of the risk for groundwater contamination from constructed wetlands (CWs) used for wastewater treatment (WWT).
- 2009 Funder, S.G. Risk assessment of the Skensved Å field site: Review and application of surface water models. (Philip J. Binning)

AWARDS AND DISTINCTIONS

- 2021 **DTU Discovery Grant** (for commercialization) of **DASH** decision support tool
- 2020 **Invited Speaker** at **Danish EPA Expert Workshop**: Modelling of environmental pollutants in surface water (Odense, DK)
- 2020 **Colding Award** for best Master thesis won by student Sebastian Figari Kramer
- 2019 **Invited speaker**: GAC-MAC-IAH conference (Quebec, CA)
- 2018 **Invited speaker**: Danish Academy of Technical Sciences (ATV) conference (Odense, DK)
- 2017 **Scientific outreach**: research featured in *Science for Environment Policy* (12th January 2017), Issue 480, European Commission DG Environment News Alert Service.
- 2015 Environmental Pollution 2015 Editor's Choice Award:
<https://www.journals.elsevier.com/environmental-pollution/editors-choice-monthly-selections/sources-occurrence-and-predicted-aquatic-impact-of-legacy-an>
- 2015 **Co-convenor** at **SETAC 2015** conference; Session on: Prioritization and management of multiple stressors in river basins (Barcelona, ES)
- 2013 **Invited speaker**: Swedish Geological Survey, conference on groundwater (Lund, SE)
- 2011; 2013 **Invited speaker**: Danish Academy of Technical Sciences (ATV) conference (Gentofte, DK)
- 2007 **Best Student Abstract**: *Groundwater Quality 2007* conference (Fremantle, AUS)

PROFESSIONAL SERVICES & AFFILIATIONS

- 2022 PhD Examiner for Andreas N. Lindqvist (Swedish Agricultural University)
- 2022 Licentiate thesis discussion leader for Nadine Gärtner (Chalmers University)
- 2020 Chair of assessment committee for Dr. Klaus Mostaf for position of Senior Researcher (DTU)
- 2019 PhD Examiner for Sara Lerer (June) & Ngoc Lâm Trác (Nov.) (DTU Environment)
- Peer-review Examples incl.: *Environmental Pollution*; *Environmental Modelling & Software*; *Science of the Total Environment*; *Chemosphere*; *Water Research*; *Journal of Cleaner Production*; *PLOS ONE*; *Ecological Engineering*; *Journal of Hazardous Materials*; *Limnologica*
- Affiliations American Geophysical Union; European Geosciences Union; System Dynamics Society; International Association of Hydrological Sciences

PERSONAL SKILLS

Mother tongue(s)	English				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
	German	C2	C2	C2	C2
Danish	C1	C2	B2	B2	B2
Swedish	B2	C1	B1	B1	B1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills	Excellent communication skills acquired through: scientific presentations in oral and written contexts (conferences; invited presentations/lectures; publications); >10 years' experience teaching and advising university undergraduate and graduate students; Project manager for various transdisciplinary and multi-cultural projects.
Organisational / managerial skills	Excellent organizational and managerial skills gained through: >15 years' experience in project management, national and international project collaboration, workshops/events organizer and convener, scientific leadership (built research group in aquatic ecohydrology at DTU), associate editor for <i>Journal of Hydrology</i> (2020 - 2021).
Computing skills	Vensim, Stella, ArcGIS, QGIS, Matlab, Fortran, LaTeX, Visual Basic, EndNote, Microsoft Office tools, administrative systems
Research software	<p>2021: DASH – Dynamic Aquatic Simulation Hub (Developers: U.S. McKnight, S. Carnohan, G. Lemaire, S. Grand, V. Mazel). System Dynamics simulation software <i>Stella Architect</i> (iSee Systems).</p> <p>2008: CARO-Plus – Cost-efficiency Analysis of Remediation Options (Developers: M. Finkel, U.S. McKnight, M. Bieg, M. Kübert, F. Serapiglia). System Dynamics simulation software <i>Vensim</i> (Ventana Systems).</p>

PUBLICATION SUMMARY

- Publications: 35; h-index: 15 (WOS), 17 (GS); i10-index: 18; Citations: 1262
- >60 conference proceedings/abstracts
- Articles in journals with Impact Factor >6 are highlighted; PhD/MSc students underlined

PEER-REVIEWED PUBLICATIONS

1. Schittich, A.R., Fenner, K., Stedmon, C.A., Xu, J., McKnight, U.S., Smets, B.F. Coupling pathway prediction and fluorescence spectroscopy to assess the impact of auxiliary substrates on micropollutant biodegradation. *Environmental Microbiology*, DOI: 10.1111/1462-2920.16560, In Press.
2. Köppl, C.J., McKnight, U.S., Lemaire, G.G., Nørregaard, A.M., Thiim, T.C., Bjerg, P.L., Bauer-Gottwein, P., Garcia, M., 2023. Tracer concentration mapping in a stream with hyperspectral images from unoccupied aerial systems. *Advances in Water Resources* 182, 104567.

3. Viti, M., Löwe, R., Sørup, H.J.D., Ladenburg, J., Gebhardt, O., Iversen, S., **McKnight, U.S.**, Arnbjerg-Nielsen, K., 2023. Holistic valuation of nature-based solutions accounting for human perceptions and nature benefits. *Journal of Environmental Management* 334, 117498.
4. Carnohan, S.A., Trier, X., Liu, S., Clausen, L.P.W., Clifford-Holmes, J.K., Hansen, S.F., Benini, L., **McKnight, U.S.**, 2023. Next generation application of DPSIR for sustainable policy implementation. *Current Research in Environmental Sustainability* 5, 100201.
5. Schittich, A.R., **McKnight, U.S.**, Stedmon, C., Smets, B.F., 2022. Assessing the substrate specificity of a micropollutant degrading strain: generalist or specialist? *Environmental Science: Processes & Impacts* 24, 2140-2152.
6. Viti, M., Löwe, R., Sørup, H.J.D., Rasmussen, M., Arnbjerg-Nielsen, K., **McKnight, U.S.**, 2022. Knowledge gaps and future research needs for assessing the non-market benefits of Nature-Based Solutions and Nature-Based Solution-like strategies. *Science of The Total Environment* 841, 156636.
7. Lemaire, G.G., Rasmussen, J.J., Höss, S., Kramer, S.F., Schittich, A.R., Zhou, Y., Köppl, C.J., Traunspurger, W., Bjerg, P.L., **McKnight, U.S.**, 2022. Land use contribution to spatiotemporal stream water and ecological quality: Implications for water resources management in peri-urban catchments. *Ecological Indicators* 143, 109360.
8. Arnbjerg-Nielsen, K., Gain, A.K., Keskinen, M., Varis, O., **McKnight, U.S.**, 2022. To what extent should we ensure the explicit inclusion of water quality within the WEF nexus? Discussion of “Water quality: the missing dimension of water in the water–energy–food nexus”, *Hydrological Sciences Journal* 67(8), 1287-1290.
9. Liu, S., Deichmann, M., Moro, M.A., Andersen, L.S., Li, F., Dalgaard, T., **McKnight, U.S.**, 2022. Targeting sustainable greenhouse agriculture policies in China and Denmark: A comparative study. *Land Use Policy* 119, 106148.
10. Naseri-Rad, M., Berndtsson, R., Aminifar, A., **McKnight, U.S.**, O'Connor, D., Persson, K.M., 2022. DynSus: Dynamic sustainability assessment in groundwater remediation practice. *Science of The Total Environment* 832, 154992.
11. Lemaire, G.G.; Carnohan, S.A.; Grand, S.; Mazel, V.; Bjerg, P.L.; **McKnight, U.S.** 2021 Data-Driven System Dynamics Model for Simulating Water Quantity and Quality in Peri-Urban Streams. *Water* 13, 3002.
12. Köppl, C.J., Malureanu, R., Dam-Hansen, C., Wang, S., Jin, H., Barchiesi, S., Sandí, J.M.S., Munoz-Carpena, R., Johnson, M., Duran-Quesada, A.M., Bauer-Gottwein, P., **McKnight, U.S.** Garcia, M., 2021. Hyperspectral reflectance measurements from UAS under intermittent clouds: Correcting irradiance measurements for sensor tilt. *Remote Sensing of Environment* 267, 112719.
13. Naseri-Rad, M., Berndtsson, R., **McKnight, U.S.**, Persson, M., Persson, K.M., 2021. INSIDE-T: A Groundwater Contamination Transport Model for Sustainability Assessment in Remediation Practice. *Sustainability* 13, 7596.
14. Skjolding L.M., Jørgensen L.V.G., Köppl C.J., **McKnight U.S.**, Bauer-Gottwein P., Bjerg, P.L., Baun, A., 2021 Assessing the aquatic toxicity and environmental safety of tracer compounds Rhodamine B and Rhodamine WT. *Water Research* 197, 117109.
15. Ottosen, C.B., Rønne, V.K., **McKnight, U.S.**, Annable, M.D., Broholm, M.M., Devlin, J.F., Bjerg, P.L., 2020. Natural attenuation of a chlorinated ethene plume discharging to a stream: Integrated assessment of hydrogeological, chemical and microbial interactions. *Water Research* 186, 116332.
16. Carnohan, S., Clifford-Holmes, J.K., Retief, H., **McKnight, U.S.**, Pollard, S., 2020. Climate-change adaptation in rural South Africa: Using stakeholder narratives to build system dynamics models in data-scarce environments. *Journal of Simulation*, doi:10.1080/17477778.2020.1762516.

17. Lemaire, G.G., McKnight, U.S., Schulz, H., Roost, S., & Bjerg, P.L., 2020. Evidence of spatio-temporal variations in contaminants discharging to a peri-urban stream. *Ground Water Monitoring and Remediation*, 40, 40–51.
18. Cremeans, M.M., Devlin, J.F., Osorno, T.C., **McKnight, U.S.**, Bjerg, P.L., 2020. A Comparison of Tools and Methods for Estimating Groundwater-Surface Water Exchange. *Ground Water Monitoring and Remediation* 40, 24-34.
19. Balbarini, N., Frederiksen, M., Rønede, V., Møller, I., Sonne, A.Th., McKnight, U.S., Pedersen, J.K., Binning, P.J., Bjerg, P.L., 2019. Assessing the transport of pharmaceutical compounds in a layered aquifer discharging to a stream. *Ground Water* 58, 208-223.
20. Moro, M.A., Andersen, M.M., Smets, B.F., McKnight, U.S., 2019. National innovative capacity in the water sector: A comparison between China and Europe. *Journal of Cleaner Production* 210, 325-342.
21. Schittich, A.R., Wunsch, U., Kulkarni, H.V., Battistel, M., Bregnhøj, H., Stedmon, C., McKnight, U.S., 2018. Investigating the role of humic DOM on the mobilization of arsenic in groundwater resources using coupled HPSEC-EEM fluorescence spectroscopy. *Environmental Science & Technology* 52, 13027-13036.
22. Sonne, A.T., Rasmussen, J.J., Höss, S., Traunspurger, W., Bjerg, P.L., McKnight, U.S., 2018. Linking ecological health to co-occurring organic and inorganic chemical stressors in a groundwater-fed stream system. *Science of the Total Environment* 642, 1153-1162.
23. Cremeans, M.M., Devlin, J.F., **McKnight, U.S.**, Bjerg, P.L., 2018. Application of new point measurement device to quantify groundwater-surface water interactions. *Journal of Contaminant Hydrology* 211, 85-93.
24. Moro, M.A., McKnight, U.S., Smets, B.F., Min, Y., Andersen, M.M., 2018. The industrial dynamics of water innovation: A comparison between China and Europe. *International Journal of Innovation Studies* 2, 14-32. (New journal: not yet indexed by WoS)
25. Rønede, V., McKnight, U.S., Sonne, A.Th., Balbarini, N., Devlin, J.F., Bjerg, P.L. 2017. Contaminant mass discharge to streams: comparing direct groundwater velocity measurements and multi-level groundwater sampling with an in-stream approach. *Journal of Contaminant Hydrology* 206, 43-54.
26. Sonne, A.Th., McKnight, U.S., Rønede, V., Bjerg, P.L., 2017. Assessing the chemical contamination dynamics in a mixed land use stream system. *Water Research* 125, 141-151.
27. Thomsen, N.I., Binning, P.J., McKnight, U.S., Tuxen, N., Bjerg, P.L., Trolborg, M., 2016. A Bayesian belief network approach for assessing uncertainty in conceptual site models at contaminated sites. *Journal of Contaminant Hydrology* 188, 12-28.
28. Rasmussen, J.J., **McKnight, U.S.**, Sonne, A.Th., Wiberg-Larsen, P., Bjerg, P.L., 2016. Legacy of a chemical factory site: Contaminated groundwater impacts stream macroinvertebrates. *Archives of Environmental Contamination and Toxicology* 70, 219-230.
29. **McKnight, U.S.**, Rasmussen, J.J., Kronvang, B., Binning, P.J., Bjerg, P.L., 2015. Sources, occurrence and predicted aquatic impact of legacy and contemporary pesticides in streams. *Environmental Pollution* 200, 64-76.
30. Rasmussen, J.J., Wiberg-Larsen, P., Baattrup-Pedersen, A., Cedergreen, N., **McKnight, U.S.**, Kreuger, J., Jacobsen, D., Kristensen, E.A., Friberg, N., 2015. The legacy of pesticide pollution: An overlooked factor in current risk assessments of freshwater systems. *Water Research* 84, 25-32.

31. **McKnight, U.S.**, Finkel, M., 2013. A system dynamics model for the screening-level long-term assessment of human health risks at contaminated sites. *Environmental Modelling & Software* 40, 35-50.
32. Rasmussen, J.J., **McKnight, U.S.**, Loinaz, M.C., Thomsen, N.I., Olsson, M.E., Bjerg, P.L., Binning, P.J., Kronvang, B., 2013. A catchment scale evaluation of multiple stressor effects in headwater streams. *Science of the Total Environment* 442, 420-431.
33. **McKnight, U.S.**, Rasmussen, J.J., Kronvang, B., Bjerg, P.L., Binning, P.J., 2012. Integrated assessment of the impact of chemical stressors on surface water ecosystems. *Science of the Total Environment* 427-428, 319-331.
34. Rasmussen, J.J., Baattrup-Pedersen, A., Wiberg-Larsen, P., **McKnight, U.S.**, Kronvang, B., 2011. Buffer strip width and agricultural pesticide contamination in Danish lowland streams: Implications for stream and riparian management. *Ecological Engineering* 37, 1990-1997.
35. **McKnight, U.S.**, Funder, S.G., Rasmussen, J.J., Finkel, M., Binning, P.J. & Bjerg, P.L., 2010. An integrated model for assessing the risk of TCE groundwater contamination to human receptors and surface water ecosystems. *Ecological Engineering* 36, 1126-1137.

OTHER PEER-REVIEWED PUBLICATIONS

1. Bjerg, P.L., Balbarini, N., Rønne, V.K., **McKnight, U.S.**, Vest Christiansen, A, Auken, E., Fiandaca, G., Maurya, P.K., Møller, I., Høyer, A., Pjetursson, B., Klint, K. E., Pedersen, J.K., Fjeldsø Christensen, J., Birch Hansen, T., Pedersen, J., Møller, M. G., Vendelbo Frandsen, J. 2018. GEOCON – Et strategisk forskningsprojekt med udvikling og integrering af geofysiske målinger i forureningsundersøgelser. *Miljø og Ressourcer* 2, 2-12.
2. **McKnight, U.S.**, Rasmussen, J.J., Kronvang, B., Binning, P.J., Bjerg, P.L. Banned pesticides continue to affect toxicity in streams. Published in *Science for Environment Policy*, 12 January 2017, Issue 480. European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.
3. **McKnight, U.S.**, Finkel, M., 2008. Model-based preliminary assessment of mega-site management options: a new approach to improve tiered decision-making. *IAHS Publ.* no. 324, 499-506.
4. Finkel, M., Bayer, P., **McKnight, U.**, Serapiglia, F., Kübert, M., 2006. Modelling tools for the selection and optimization of contaminated land management strategies. *Italian Journal of Engineering Geology and Environment*, Special Issue 2, 25-28.

BOOK SECTIONS AND TECHNICAL REPORTS

1. Wendling, L., Dumitru, A., Arnbjerg-Nielsen, K., Baldacchini, C., Connop, S., Dubovik, M., Feroso, J., Hölscher, K., Nadim, F., Pilla, F., Renaud, F., Rhodes, M.L., San José, E., Sánchez, R., Skodra, J., Tacnet, J.-M., Zulian, G., Allaert, K., Almassy, D., Ascenso, A., Babí Almenar, J., Basco, L., Beaujouan, V., Benoit, G., Bockarjova, M., Bode, N., Bonelli, S., Bouzouidja, R., Butlin, T., Calatrava, J., Calfapietra, C., Cannavo, P., Capobianco, V., Caroppi, G., Ceccherini, G., Chancibault, K., Cioffi, M., Coelho, S., Dadvand, P., de Bellis, Y., de Keijzer, C., de la Hera, A., De Vreese, R., Decker, S., Djordjevic, S., Dowling, C., Dushkova, D., Eiter, S., Faneca, M., Fatima, Z., Ferracini, C., Fjellstad, W., Fleury, G., Freyer, B., García, I., García-Alcaraz, M., Gerundo, C., Gil-Roldán, E., Giordano, R., Giugni, M., Goličnik Marušić, B., Gómez, S., González, M., Gonzalez-Ollauri, A., Guidolotti, G., Haase, D., Heredida, J., Hermawan, T., Herranz-Pascual, K., Jermakka, J., Jones, L., Kiss, M., Kraus, F., Körmöndi, B., Laikari, A., Laille, P., Lemée, C., Llorente, M., Lodder, M., Macinga, I., Maes, J., Maia, S., Manderscheid, M., Manzano, M., Martelli, F., Martins, R., Mayor, B., **McKnight, U.**, Mendizabal, M., Mendonça, R., Mickovski, S.B., Miranda, A.I., Moniz, G.C., Munro, K., Nash, C., Nolan, P., Oen, A., Olsson, P., Olver, C., Ozturk, E.D., Paradiso, F., Petucco, C., Pisani, N., Piton, G., Pugliese, F., Rasmussen, M., Ravnikar, Z., Reich, E., Reichborn-Kjennerud, K., Rinta-Hiiri, V., Robles, V., Rodriguez, F., Roebeling, P., Ruangpan, L., Rugani, B., Rödl, A., Sánchez, I., Sánchez Torres, A., Sanesi, G., Sanz, J.M., Scharf, B., Silvestri, F., Spano, G., Stanganelli, M., Szkordilis, F., Tomé-Lourido, D., Vay, L., Vela, S., Vercelli,

- M., Villazán, A., Vojinovic, Z., Werner, A., Wheeler, B., Young, C., Zorita, S., Zandersen, M., and zu-Castell Rüdénhausen, M.. 2021. Indicators of NBS performance and impact. In: Dumitru, A. and Wendling, L. (eds.) *Evaluating the Impact of Nature-Based Solutions: a Handbook for Practitioners*. European Commission: Brussels, pp. 115-176. ISBN 9789276229612 (doi: 10.2777/244577).
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