

CURRICULUM VITAE

PD Dr. Mario Brauns

Head of the Research Group “Food
web ecology”

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Research focus

Lotic ecosystem processes, freshwater food webs, benthic secondary production, functional assessment, stable isotopes, invasive species

Summary of qualifications

- PD** (*venia legendi*) in Hydrobiology, Technische Universität Dresden, Germany 2021
Thesis title: *Human regulation of organic matter flows in freshwater food webs*
- PhD** (Dr. rer. agr.). Humboldt-University Berlin and Leibniz-Institute of Freshwater Ecology and Inland Fisheries. Berlin, Germany 2003–2009
Thesis title: *Human impacts on the structure and ecological function of littoral macroinvertebrate communities in lakes*
- Dipl.-Ing.** (FH, Landscape planning). Anhalt University of Applied Sciences. Bernburg, Germany 1996–2000
Thesis title: *Longitudinal zonation and recolonisation of the River Holtemme, a heavily modified river in the Harz Mountains*

Employment history

- Research group leader** (tenured), Department River Ecology, Helmholtz-Centre for Environmental Research– UFZ Since 2017
- Post-doc** (Tenure track), Department River Ecology, Helmholtz-Centre for Environmental Research– UFZ 2010-2016
- Post-doc**, Department of Ecosystem Research, Leibniz-Institute of Freshwater Ecology and Inland Fisheries. Berlin, Germany 2009-2010
- PhD Student**, Humboldt-University and Leibniz-Institute of Freshwater Ecology and Inland Fisheries. Berlin, Germany 2003–2009

Research funding

- “Quantifying restoration success across biomes by linking biodiversity, multifunctionality and hydromorphological heterogeneity (RESTOLINK)”* BiodivERsA and Water JPI, Principal investigator, 249,919€ 2022-2025
- “Revitalisation of a dynamic riverine landscape in Central Germany”*, Federal Ministry of Education and Research, Leader of work package *“Organic matter dynamics”* together with Markus Weitere, 939,757€ 2015-2021
- “THROW - Thesholds for a sustainable water resource management”* Federal Ministry of Education and Research, Principal investigator together with Bernd Klauer, 166,388€ 2017-2018
- “Homogenisation of ecosystem functioning between Temperate and Neotropical streams due to agricultural land use”* German Research Foundation & Research Foundation of Minas Gerais, Brazil, Principal investigator together with Björn Gücker, Iola Boëchat, 487,587€ 2012–2018
- “Initiation of bilateral cooperation with Brazil”* International Bureau of the Federal Ministry of Education and Research, Principal investigator, 1,070€ 2011
- “Travel grant ASLO/NABS Meeting”* German Academic Exchange Service, 1,394€ 2010
- “Validation of biological and morphological approaches for the assessment of lakes”* Senatsverwaltung für Stadtentwicklung Berlin, principal investigator, 6.264€ 2010

- “Development of a method to assess the ecological status of lakes using littoral macroinvertebrates” Länderarbeitsgemeinschaft Wasser, principal investigator 2009–2010
together with J. Böhmer, M. Pusch, 128,400€
- “Development of an assessment method for lakes in Schleswig-Holstein” Landesamt für Landwirtschaft, Umwelt, ländliche Räume Schleswig-Holstein, principal investigator 2008–2009
together with M. Pusch, 110,408€
- “Assessment of the ecological status of lakes in Sachsen-Anhalt” Landesbetrieb für Hochwasserschutz und Wasserwirtschaft Sachsen-Anhalt, principal investigator 2007–2008
together with X.-F. Garcia, M. Pusch 59,576€
- “Developing of a method for the ecological assessment of lakes“ NaFöG & FAZIT Foundation, PhD fellowship, 26,400€ 2003-2006

Publications

Refereed journal articles

- [46] Anlanger, C., Attermeyer, K., Hille, S., Koll, K., König, M., Schnauder, I., Tavares, C., Weitere, M. & Brauns, M. (2022): Large wood in river restoration: a case study on the effects on hydromorphology, biodiversity, and ecosystem functioning.- *Int. Rev. Hydrobiol.*
<http://doi.org/10.1002/iroh.202102089>
- [45] de Guzman, I., Altieri, P., Elozegi, A., Pérez-Calpe, A.V., von Schiller, D., González, J.M., Brauns, M., Montoya, J.M. & Larrañaga, A. (2021): Water diversion and pollution interactively shape freshwater food webs through bottom-up mechanisms.- *Glob. Chang. Biol.*
<https://doi.org/10.1111/gcb.16026>
- [44] Brauns, M., Kneis, D., Brabender, M. & Weitere, M. (2021): Habitat availability determines food chain length and interaction strength in food webs of a large lowland river.- *River Res. Appl.*
<http://doi.org/10.1002/rra.3908>
- [43] Schmitz, M., Deutschmann, B., Markert, N., Backhaus, T., Brack, W., Brauns, M., Brinkmann, M., Seiler, T.B., Fink, P., Tang, S., Beitel, S., Doering, J.A., Hecker, M., Shao, Y., Schulze, T., Weitere, M., Wild, R., Velki, M. & Hollert, H. (in press): Demonstration of an aggregated biomarker response approach to assess the impact of point and diffuse contaminant sources in feral fish in a small river case study.- *Sci. Tot. Environ.* <https://doi.org/10.1016/j.scitotenv.2021.150020>
- [42] Brauns, M., Berendonk, T., Berg, S., Grunicke, F., Kneis, D., Krenek, S., Schiller, T., Schneider, J., Wagner, A. & Weitere, W. (2021): Stable isotopes reveal the importance of terrestrially derived resources for the diet of the freshwater pearl mussel (*Margaritifera margaritifera*).- *Aquat. Conserv.* 31: 2496–2505.
- [41] Weigelhofer, G., Brauns, M., Gilvear, D., Haidvogel, G. & Hein, T. (2021): Riverine landscapes: challenges and future trends in research and management.- *River Res. Appl.* 37: 119-122.
- [40] Reiber, L., Knillmann, S., Kaske, O., Atencio, L.C., Bittner, L., Albrecht, J., Bartonitz, A., Fahl, A.-K., Beckers, L.-M., Krauss, M., Henkelmann, B., Schramm, K.-W., Inostroza, P.A., Schinkel, L., Brauns, M., Weitere, M., Brack, W. & Liess, M. (2021): Long-term effects of a catastrophic insecticide spill on stream invertebrates.- *Sci. Tot. Environ.*
<https://doi.org/10.1016/j.scitotenv.2020.144456>
- [39] Weitere, M., Altenburger, R., Anlanger, C., Baborowski, M., Bärlund, I., Beckers, L.-M., Borchardt, D., Brack, W., Brase, L., Busch, W., Chatzinotas, A., Deutschmann, B., Eligehausen, J., Frank, K., Graeber, D., Griebler, C., Hagemann, J., Herzsprung, P., Hollert, H., Inostroza, P.A., Jäger, C., Jahnke, A., Kalies, R., Kamjunke, N., Karrasch, B., Kaschuba, S., Kaus, A., Kurz, M., Liess, M., Marges, M., Müller, C., Muschket, M., Musolff, A., Norf, H., Pöhlein, F., Reiber, L., Risse-Buhl, U., Schramm, K.-W., Schmitt-Jansen, M., Schmitz, M., Strachauer, U., von Tümpling, W., Weber, N., Wild, R., Wolf, C., Brauns, M. (2021): Disentangling multiple chemical and non-chemical stressors in a lotic ecosystem using a longitudinal approach.- *Sci. Tot. Environ.*

- <https://doi.org/10.1016/j.scitotenv.2020.144324>
- [38] Miler, O. & Brauns, M. (2020): Hierarchical response of littoral macroinvertebrates to altered hydromorphology and eutrophication.- *Sci. Tot. Environ.*
<https://doi.org/10.1016/j.scitotenv.2020.140582>
- [37] Nogueira Tavares, C., Brauns, M., Hille, S., Krenek, S., Borcharding, J. & Weitere, M. (2020) Tracing the colonization process of non-native gobies into a large river – The relevance of different dispersal modes.- *Biol. Inv.* 22: 2421–2429.
- [36] Fink, P., Norf, H., Anlanger, C., Brauns, M., Kamjunke, N., Risse-Buhl, U., Schmitt-Jansen, M., Weitere, M. & Borchardt, D. Streamside mobile mesocosms (MOBICOS) (2020): A new modular research infrastructure for hydro-ecological process studies across catchment-scale gradients.- *Int. Rev. Hydrobiol.* 105: 63-71.
- [35] Kärcher, O., Filstrup, C.T., Brauns, M., Tasevska, O., Patcevy, P., Hellwig, N., Walz, A., Frank, K. & Markovic, D. (2020). Chlorophyll a relationships with nutrients and temperature, and predictions for lakes across perialpine and Balkan mountain regions.- *Inland Waters* 10: 29-41.
- [34] Kamjunke, N., Hertkorn, N., Harir, M., Schmitt-Kopplin, P., Griebler, C., Brauns, M., von Tümpling, W., Weitere, M. & Herzsprung, P. (2020). Molecular change of dissolved organic matter and patterns of bacterial activity in a stream along a land-use gradient.- *Wat. Res.* 164, <https://doi.org/10.1016/j.watres.2019.114919>
- [33] Brauns, M., Brabender, M., Gehre, M., Rinke, K. & Weitere, M. (2019): Organic matter resources fuelling food webs in a human-modified lowland river: Importance of habitat and season.- *Hydrobiologia* 841: 121–131.
- [32] Graeber, D, Gücker, B, Wild, R, Wells, N.S., Anlanger, C., Kamjunke, N., Norf, H., Schmidt, C. & Brauns, M. (2019): Biofilm-specific uptake does not explain differences in whole-stream DOC tracer uptake between a forest and an agricultural stream.- *Biogeochemistry* 144: 85-101.
- [31] Wild, R., Gücker, B. & Brauns, M. (2019): Agricultural land use alters temporal patterns and the composition of organic matter in temperate headwater streams.- *Freshw. Sci.* 38: 566-581.
- [30] Porst, G., Brauns, M., Irvine, K., Solimini, A., Sandin, L., Pusch, M. & Miler, O. (2019): Effects of shoreline alteration and habitat heterogeneity on macroinvertebrate community composition across European lakes.- *Ecol. Indic.* 98: 285–296.
- [29] Pätzig, M., Vadeboncoeur, Y. & Brauns, M. (2018): Lakeshore modification reduces secondary production of macroinvertebrates in littoral but not deeper zones.- *Freshw. Sci.* 37: 845-856.
- [28] Brauns, M., Boëchat, I.G., de Carvalho, A.P.C., Graeber, D., Gücker, B., Mehner, T. & von Schiller, D. (2018): Consumer-resource stoichiometry as a predictor of trophic discrimination ($\Delta^{13}\text{C}$, $\Delta^{15}\text{N}$) in aquatic invertebrates.- *Freshw. Biol.* 63:1240–1249.
- [27] Inostroza, P.A., Vera-Escalona, I., Wild, R., Norf, H & Brauns, M. (2018): Tandem action of natural and chemical stressors in stream ecosystems: insights from a population genetic perspective.- *Environ. Sci. & Technol.* 52: 7962-7971.
- [26] Müller, C., Musolff, A., Strachauer, U., Brauns, M., Tarasova, L., Merz, R. & Knöller, K. (2018): Tomography of anthropogenic nitrate contribution along a mesoscale river.- *Sci. Total Environ.* 615: 773–783.
- [25] Lischke, B., Mehner, T., Hilt, S., Attermeyer, K., Brauns, M., Brothers, S., Grossart, H.P., Köhler, J., Scharnweber, K. & Gaedke, U. (2017): Benthic carbon is inefficiently transferred in the food webs of two eutrophic shallow lakes.- *Freshw. Biol.* 62: 1693–1706.
- [24] Reinhard, T., Brauns, M., Steinfartz, S., & Weitere, M. (2017): Effects of salamander larvae on food webs in highly subsidised ephemeral ponds.- *Hydrobiologia* 799: 37–48.
- [23] Wollschläger, U., Attinger, S., Borchardt, D., Brauns, M., Cuntz, M., Dietrich, P., Fleckenstein, J.H., Friese, K., Friesen, J., Hildebrandt, A., Jäckel, G., Kamjunke, N., Knöller, K., Kögler, S., Kolditz, O., Krieg, R., Kumar, R., Lausch, A., Liess, M., Marx, A., Merz, R., Mueller, C., Musolff, A., Norf, H., Rebmann, C., Reinstorf, F., Rode, M., Rink, K., Rinke, K., Samaniego, L., Vieweg, M., Vogel, H.-J.,

- Weitere, M., Werban, U., Zink, M. & Zacharias, S. (2017): The Bode hydrological observatory: a platform for integrated, interdisciplinary hydro-ecological research within the TERENO Harz/Central German Lowland Observatory.- *Environ. Earth Sci.* 76: 1-25.
- [22] Syväranta, J., Scharnweber, K., Brauns, M., Hilt, S. & Mehner, T. (2016): Assessing the utility of hydrogen, carbon and nitrogen stable isotopes in estimating consumer allochthony in two shallow eutrophic lakes.- *PLOS ONE*, DOI:10.1371/journal.pone.0155562
- [21] Brabender, M., Weitere, W., Anlanger, C. & Brauns, M. (2016): Secondary production and richness of native and non-native macroinvertebrates are driven by human-altered shoreline morphology in a large river.- *Hydrobiologia* 776: 51–65.
- [20] Mehner, T., Attermeyer, K., Brauns, M., Brothers, S., Diekmann, M., Gaedke, U., Grossart, H.-P., Köhler, J., Lischke, B., Meyer, N., Scharnweber, K., Syväranta, J., Vanni, M. & Hilt, S. (2015): Weak response of animal allochthony and production to enhanced supply of terrestrial leaf litter in nutrient-rich lakes.- *Ecosystems* 19: 311–325.
- [19] Mährlein, M., Pätzig, M., Brauns, M., & Dolman, A.M. (2015): Length-mass relationships for lake macroinvertebrates corrected for back transformation and preservation effects.- *Hydrobiologia* 768: 37-50.
- [18] Porst, G., Miler, O., Donohue, L., Jurca, T., Pilotta, F., Brauns, M., Solimini, A. & Pusch, M. (2015): Efficient sampling methodologies for lake littoral invertebrates in compliance with the European Water Framework Directive.- *Hydrobiologia* 767: 207–220.
- [17] Peipoch, M., Brauns, M., Hauer, F.R., Weitere, M. & Valett, H.M. (2015): Ecological simplification: human influences on riverscape complexity.- *BioScience* 65: 1057-1065.
- [16] Miler, O., Ostendorp, W., Brauns, M., Porst, G. & Pusch, M. (2015): Ecological assessment of morphological shore degradation at whole lake level aided by aerial photo analysis.- *Fundam. Appl. Limnol.* 186: 353 – 369.
- [15] Pätzig, M., Grüneberg, B. & Brauns, M. (2015): Water depth but not season mediates the effects of human lakeshore modification on littoral macroinvertebrates in a large lowland lake.- *Fundam. Appl. Limnol.* 186: 311-321.
- [14] Fornero Aguiar, A.C., Gücker, B., Brauns, M., Hille, S. & Boëchat, I.G. (2015): Benthic invertebrate density, biomass and instantaneous secondary production along a fifth-order human-impacted tropical river.- *Environ. Sci. Pollut. Res.*, 22: 9864–9876.
- [13] de Carvalho, A.P.C., Gücker, B., Brauns, M. & Boëchat, I.G. (2015): High variability in carbon and nitrogen isotopic discrimination of tropical freshwater invertebrates.- *Aquat. Sci.* 77: 307-314.
- [12] Hilt, S., Wanke, T., Scharnweber, K., Brauns, M., Syväranta, J., Brothers, S., Gaedke, U., Köhler, J., Lischke, B. & Mehner, T. (2015): Contrasting response of two shallow eutrophic lakes to a partial winter-kill of fish.- *Hydrobiologia* 749: 31–42.
- [11] Scharnweber, K., Syväranta, J., Hilt, S., Brauns, M., Vanni, M.J., Brothers, S., Köhler, J., Knežević Jarić, J. & Mehner, T. (2014): Whole lake experiments reveal the fate of terrestrial particulate organic carbon in benthic food webs of shallow lakes.- *Ecology* 95: 1496-1505.
- [10] Kamjunke, N., Büttner, O., Jäger, C., Marcus, H., Von Tümpling, W., Halbedel, S., Norf, N., Brauns, M., Baborowski, M., Wild, R., Borchardt, D. & Weitere, M. (2013): Biogeochemical patterns in a river network along a land use gradient.- *Environ. Monit. Assess.* 185: 9221-9236.
- [9] Graeber, D., Pusch, M.T., Lorenz, S. & Brauns, M. (2013): Cascading effects of flow reduction on the benthic invertebrate community in a lowland river.- *Hydrobiologia* 717 147-159.
- [8] Brauns, M., Gücker, B., Wagner, C., Garcia, X. F., Walz, N. & Pusch, M. (2011): Human lakeshore development alters the structure and trophic basis of littoral macroinvertebrate food webs.- *J. Appl. Ecol.* 48: 916-925.
- [7] Gücker, B., Brauns, M., Solimini, A.G., Voss, M., Walz, N. & Pusch, M. (2011): Urban stressors alter the trophic basis of secondary production in an agricultural stream. *Can. J. Fish. Aquat. Sci.* 68: 74-88.
- [6] Schreiber, J. & Brauns, M. (2010): How much is enough? Adequate sample size for littoral

- macroinvertebrates in lowland lakes.- *Hydrobiologia* 649: 365-373.
- [5] Brauns, M., Garcia, X. F. & Pusch, M. (2008): Potential effects of water level fluctuations on littoral invertebrates in lowland lakes.- *Hydrobiologia* 613: 5-12.
- [4] Gabel, F., Garcia, X. F., Brauns, M., Sukhodolov, A., Leszinski, M. & Pusch, M. (2008): Resistance to ship induced waves of benthic invertebrates in various littoral habitats.- *Freshw. Biol.* 53: 1567-1578.
- [3] Brauns, M., Garcia, X. F., Walz, N & Pusch, M. (2007): Effects of human shoreline development on littoral macroinvertebrates in lowland lakes.- *J. Appl. Ecol.* 44: 1138-1144.
- [2] Brauns, M., Garcia, X. F., Pusch, M. & Walz, N. (2007): Eulittoral macroinvertebrate communities of lowland lakes: discrimination among trophic states.- *Freshw. Biol.* 52: 1022-1032.
- [1] Gücker, B., Brauns, M., & Pusch, M. (2006): Effects of wastewater treatment plant discharge on ecosystem structure and function of lowland streams.- *J. North Am. Benthol. Soc.* 25: 313-329.

Refereed journal articles under review.

- Attermeyer, K., Anlanger, C., Weitere, M., Kamjunke, N. & Brauns, M.: Small-scale heterogeneity of benthic metabolism and nutrient uptake in a lowland river.- submitted to *Freshwater Science*
- Brauns, M., Allen, D.C., Boëchat, I.G., Cross, W.F., Ferreira, V., Graeber, D., Patrick, C.J., Peipoch, M., von Schiller, D. & Gücker, B.: A global synthesis of human impacts on the multifunctionality of streams and rivers.- submitted to *Global Change Biology*
- Mehner, T., Attermeyer, K., Brauns, M., Brothers, S., Hilt, S., Scharnweber, K., Vadeboncoeur, Y., van Dorst, R., Vanni, M., & Gaedke, U.: Trophic transfer efficiency in lakes.- submitted to *Ecosystems*
- Meier, L., Brauns, M., Grimm, V., Weitere, M. & Frank, K.: MASTIFF: A mechanistic model for cross-scale analyses of the functioning of multiply stressed riverine ecosystems.- submitted to *Ecological Modelling*
- Nogueira Tavares, C., Weitere, M., Borcharding, J., Gerngroß, P., Krenek, S., Worischka, S., & Brauns, M.: Diet composition and trophic niche differentiation of *Neogobius melanostomus* along an invasion gradient in a large lowland river.- submitted to *Limnologia*
- Schulz-Zunkel, C., Anlanger, C., Baborowski, M., Bondar-Kunze, E., Brauns, M., Gapinski, C., Gründling, R., von Haaren, C., Hein, T., Henle, K., Junge, F., Koll, K., Kasperidus, H.D., Kretz, L., Rast, G., Sendek, A., Sprößig, C., Seele-Dilbat, C., Scholz, M., Schnauder, I., Schrenner, H. Nogueira Tavares, C., Vieweg, M., von Tümpling, W., Weitere, M., Wirth, C., Wunsch, T. & Dziock, F.: Restoration and impact analysis in floodplain ecosystems, the project 'Wilde Mulde'.- submitted to *International Review of Hydrobiology*
- Wild, R., Gücker, B., Weitere, M. & Brauns, M.: Resource supply and organismal dominance are associated with high secondary production in temperate agricultural streams.- submitted to *Functional Ecology*

Book chapter

- Weitere, M., Brauns, M., Rinke, K., Borchardt, D. & Wentzky, V. (2020): Wasserqualität und Biodiversität: eine enge wechselseitige Beziehung.- in Earth System Knowledge Platform (Eds.): ESKP-Themenspezial Biodiversität im Meer und an Land. Vom Wert biologischer Vielfalt.- 54-57. Helmholtz-Zentrum Potsdam, Deutsches GeoForschungsZentrum GFZ, Potsdam, DOI: 10.2312/eskp.2020.1.2.4
- Brauns, M., Von Schiller, D. & Gergs, R. (2013): Stabile Isotopentechniken und ihre Bedeutung für die gewässerökologische Forschung.- In: Hupfer, M., Calmano, W., Fischer, H. & Klapper, H. (Eds.): Handbuch Angewandte Limnologie.- 30. Erg. Lfg. 12/12, 20 pp.
- Garcia, X.-F., Brauns, M. & Pusch, M.T. (2006): Makrozoobenthos-Besiedlung in unterschiedlichen Bühnenfeldtypen.- In: Pusch, M. & Fischer, H. (Eds.): Stoffdynamik und Habitatstruktur in der Elbe.

Konzepte zur nachhaltigen Nutzung einer Flusslandschaft Bd. 5. Weißensee Verlag, Berlin, 272-277.

Garcia, X.-F., Pusch, M.T., Brauns, M. & Walz, N. (2002): Typologie und ökologische Bewertung von Seen in Brandenburg auf der Grundlage des Makrozoobenthos.- In: Deneke, R. & Nixdorf, B. (Eds.): Ansätze und Probleme bei Umsetzung der EU-Wasserrahmenrichtlinie. Aktuelle Reihe der BTU Cottbus 5: 53-68.

Non-refereed journal articles

Schrenner, H., Schulz-Zunkel, C., Rast, G., Gapinski, C., Anlanger, C., Bondar-Kunze, E., Brauns, M., Dziock, F., von Haaren, C., Hein, T., Henle, K., Kasperidus, H.D., Klimmer, N., Koll, K., König, M., Kretz, L., Krummhaar, B., Sprössig, C., Schnauder, I., Sendek, A., Scholz, M., Seele-Dilbat, C., Nogueira Tavares, C., Vieweg, M., Weitere, M. & Wirth, C. (2020): Reflexion des Naturschutz-, Forschungs- und Umweltbildungsprojekts „Wilde Mulde“. - Auenmagazin 17: 22-27.

Schulz-Zunkel, C., Rast, G., Schrenner, H., Baborowski, M., Bauth, S., Bondar-Kunze, E., Brauns, M., Bromberger, S., Dziock, F., Gapinski, C., Gründling, R., von Haaren, C., Hein, T., Henle, K., Kamjunke, N., Kasperidus, H.D. Koll, K., Kretz, L., Krüger, F., Möws, R., Otte, M., Pucher, M., Schmidt, C., Schnauder, I., Schaolz, M., Seele, C., Nogueira Tavares, C., Von Tümpling, W., Vieweg, M., Warthemann, G., Weitere, M. & Wirth, C. (2017): Wilde Mulde – Revitalisierung einer Wildflusslandschaft in Mitteldeutschland. Naturschutz im Land Sachsen-Anhalt 54: 46-65.

Brabender, M. & Brauns, M. (2013): First record of *Ametropus fragilis* Albarda, 1878 (Insecta: Ephemeroptera, Ametropodidae) in the River Elbe in Saxony-Anhalt (Germany).- *Lauterbornia* 76: 1-3.

Schreiber, J. & Brauns M. (2009): Wiederfund von *Gammarus lacustris* (Sars, 1863) (Crustacea, Gammaridae) in Brandenburg.- *Lauterbornia* 67: 189-192.

Hohmann, M., Brauns, M., Jährling, M., Kleinsteuber, W. & Tappenbeck, L. (2007): Neu- und Wiederfunde von Köcherfliegen (Insecta, Trichoptera) in Sachsen-Anhalt seit 1994.- *Abhandl. Ber. Naturkunde* 29: 105-124.

Brauns, M., Garcia, X.-F., Pusch, M.T. & Walz, N. (2004): Beitrag zur Litoralfauna der großen Seen in Brandenburg.- *Lauterbornia* 49: 43-72.

Brauns, M., Walz, N. & Brüggemann, R. (2004): Seeufer ein vergessenes Ökoton, Beitrag 4: Ein Bericht von der 1. Seeuferkonferenz in Konstanz, 19. - 21. Juni 2003.- *UWSF-Z. Umweltchem. Ökotox.* 16: 113-114.

Brüggemann, R., Walz, N., Brauns, M. & Ostendorp, W. (2004): Seeufer, ein vergessenes Ökoton, Beitrag 3: Gedanken zum Schutzziel "Artengemeinschaften".- *UWSF-Z. Umweltchem. Ökotox.* 16: 48-56.

Hendrich, L. & Brauns, M. (2004): Verbreitung und Bionomie des Schwimmkäfers *Hydroglyphus hamulatus* (Gyllenhal, 1813) in Deutschland (Coleoptera: Dytiscidae).- *Entomol. Z.* 114: 121-125.

Garcia, X.-F., Brauns, M., Pusch, M.T. & Walz, N. (2003): Selecting potential type- specific lakes of reference in implementing the E.U. Water Framework Directive.- In: Ruoppa, M., Heinonen, P., Pilke, A., Rekolainen, S., Toivonen, H. & Vuoristo, H. (eds.): How to assess and monitor ecological quality in freshwaters.- *TemaNord* 547: 206-211.

Brauns, M. (2003): Die Wasserinsektenfauna (Ephemeroptera, Plecoptera, Coleoptera, Trichoptera) der Buckau, einem Flämingbach in Brandenburg.- *Märk. Entomol. Nachr.* 5: 59-61.

Brauns, M. (2002): Erstnachweis von *Ecdyonurus subalpinus* (Klapalek, 1907) (Ephemeroptera: Heptageniidae) für Sachsen-Anhalt.- *Entomol. Mitt.* 9 (2001): 53-54.

Brauns, M. & Offinger, W. (2002): Bemerkenswerte Nachweise von Wasserinsekten (Ephemeroptera, Coleoptera, Trichoptera) aus dem Nordharz, Sachsen-Anhalt.- *Lauterbornia* 44: 73-82.

Invited presentations

- Brauns, M. (2018): Human regulation of organic matter flows in freshwater food webs.- Seminar at the University of Cologne
- Brauns, M. (2016): Effects of human shoreline development on biodiversity and functioning of macroinvertebrates in lowland lakes.- Seminar at the Flathead Biological Field Station, University of Montana
- Brauns, M., Brabender, M. & Weitere, M. (2013): Patterns of benthic secondary production in a large lowland river.- XIV Congresso Brasileiro de Limnologia
- Brauns, M. (2013): Benthische Nahrungsnetze - Ein Spiegel der anthropogenen Belastung von aquatischen Ökosystemen.- Institute of Landscape Ecology of the University Münster
- Brauns, M. (2012): Funktionelle Bewertung von limnischen Ökosystemen anhand von Nahrungsnetzen.- Hydrobiologisches Seminar Technical University of Dresden

Professional awards

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| Transfer of knowledge award of the Helmholtz-Centre for Environmental Research–
UFZ | 2017 |
| Young researcher award of the German Limnological Society | 2011 |

*Teaching and supervisory activities**Courses Taught*

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| Lecture “Basic aquatic ecology” Technische Universität Dresden
Lecturing graduate students on fundamentals of aquatic ecology and ecosystem ecology | Since 2015 |
| Lecture “Aquatic food webs – Introduction, methods and applications”, Technische Universität Dresden
Lecturing graduate students on fundamentals of aquatic food webs, methods to construct stable isotopes based food webs, introducing the application of food webs to assess the functional status of aquatic ecosystems | Since 2014 |
| Field course “ <i>Hydrobiology and Limnology</i> ”, Technische Universität Dresden
Lecturing undergraduate and graduate students on fundamentals of the taxonomy of benthic macroinvertebrates, introducing the basics of the biological assessment of streams using macroinvertebrates, introducing concepts of the hydromorphological assessment of streams | Since 2010 |
| Field course “ <i>Macroinvertebrates</i> ” within the Bodepraktikum, Technische Universität Dresden
Lecturing graduate students on fundamentals of taxonomy of benthic macroinvertebrates and on the biological assessment of streams, supervising the statistical analysis of the data and the writing of a project report | Since 2010 |

Graduate scholars supervised/advised

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| Alexandra Schlenker, PhD, „Effects of multiple stress on food web structures and functions in running water ecosystems“, Technische Universität Dresden | 2021-2024 |
| Zulma Lorena Duran Hernandez, M.Sc. „The ecosystem service of nitrate uptake in benthic and hyporheic zones in streams under eutrophication stressor“, Technische Universität Dresden and International Institute of Zittau | 2021 |
| Luisa Kauert, M.Sc. „Estimation of basic ecosystem functions at restored streams“, Technische Universität Dresden | 2020-2021 |

- Stefanie Jolitz-Seif, M.Sc. „Bewertung des ökologischen Zustandes von Fließgewässern mittels Makrozoobenthos und Meiofauna“, Hochschule Anhalt Bernburg 2020
- Jacob Seichter, M.Sc., „Effekte hydromorphologischer Degradation auf die Struktur und trophische Basis des Nahrungsnetzes der Mulde“, Technische Universität Dresden 2019-2020
- Patrick Gerngross, M.Sc. „Auswirkungen der Prädation der invasiven Schwarzmaulgrundel auf das Makrozoobenthos der Elbe“, Hochschule Magdeburg-Stendal 2019-2020
- Katharina Reimann, B.Sc. „Effekte der Kolmation auf die Zusammensetzung der hyporheischen Fauna in Fließgewässern des Harzes“, Technische Universität Dresden 2019
- Julia Pasqualini PhD, „Biological control of compartmental and whole-stream nutrient uptake along stressor gradients“ Technische Universität Dresden 2018-2021
- Therese Charlotte Martha Nitschke, B.Sc., „Quantifizierung der Ressourcennutzung des Makrozoobenthos in einem Tieflandfluss mittels stabiler Isotope ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$)“, Technische Universität Dresden 2018-2019
- Lena Meier, PhD „Development of a coupled foodweb model for a mechanistic multiple stressors assessment in riverine ecosystems“, University of Osnabrück 2017-2020
- Sina Berg, M.Sc., „Charakterisierung der Nahrungsquellen der Flussperlmuschel mittel stabilen Isotopen ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$)“, Technische Universität Dresden 2018
- Christin Horn, M.Sc., „Räumlich-zeitliche Variabilität der stabilen Isotopensignatur ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$) von Primärproduzenten in Fließgewässern des Harzes“, Hochschule Magdeburg-Stendal 2016-2017
- Romy Wild, PhD, „The influence of agricultural land use on food webs in temperate streams“, Technische Universität Dresden 2012–2022
- Marlene Pätzig, PhD, „Influence of habitat heterogeneity of modified lakeshores on the diversity and ecological function of macroinvertebrates in a north German lowland lake“, Brandenburgische Technische Universität 2010–2015
- Sven Schöndube, B. Sc., „Die Auswirkung von Landwirtschaft auf die Artenzusammensetzung und Diversität von Köcherfliegen in Bächen des Harzes“, Hochschule Anhalt Bernburg 2015
- Nicole Oberhoffner, M.Sc., „Effects of stream restoration on benthic macroinvertebrates“, Technische Universität Dresden 2014-2015
- Marian Brabender, PhD, „The impact of shore types on benthic macroinvertebrate community structure and functioning in a large lowland river“, Technische Universität Dresden 2010–2014
- Hana Majrada, B.Eng., „Der Einfluss von Landwirtschaft auf die Großgruppenszusammensetzung von Makrozoobenthos und die Diversität von Köcherfliegen (Trichoptera) in Bächen im Harz“ Hochschule Anhalt, Bernburg 2014
- Marcus Friese, Dipl. Biol., „Effects of dietary quality and species identity on discrimination factors ($\Delta^{15}\text{N}$ and $\Delta^{13}\text{C}$) of littoral macroinvertebrate consumers“ Universität Potsdam 2009–2010
- Marlen Mährlein, Dipl. Biol., „Sekundärproduktion des Makrozoobenthos in einem Tieflandsee“ Freie Universität Berlin 2008–2009
- Jürgen Schreiber, Dipl.-Ing. (FH), „Mindestbeprobungsflächen vom litoralen Makrozoobenthos für eine effektive Bestimmung des ökologischen Zustandes von Seen“ Hochschule Eberswalde 2008
- Ricarda Lehmitz, Dipl. Biol., „Charakterisierung von Seentypen des Norddeutschen Tieflandes anhand aquatischer Coleoptera“ Universität Potsdam 2007

Daniel Graeber, M.Sc. „Structure and food resources of the macroinvertebrate community in the „Krumme Spree“- river section (Brandenburg, Germany)“ Universität Göttingen	2006–2007
Friederike Gabel, M.Sc., „Impact of ship-induced waves on benthic invertebrates colonising lake shore habitats - An experimental study“ Westfälische Wilhelms-Universität Münster	2005–2006

Professional memberships

Association for the Sciences of Limnology and Oceanography (ASLO)
German Limnological Society (DGL)
Society for Freshwater Science (SFS, formerly NABS)

Review and Assessment Activities

Research Funding Assessment: Alexander von Humboldt-Foundation, Austrian Exchange Service (OeAD), Bayerisches Klimaforschungsnetzwerk (bayklif), German Academic Exchange Service (DAAD), German Research Foundation (DFG), National Research Foundation (NRF) of South Africa, Netherlands Organisation for Scientific Research (NOW), Rufford Foundation

Review Activities:

Handling editor: *International Review of Hydrobiology*, *PeerJ*

Reviewer: *Aquatic Ecology*, *Aquatic Sciences*, *Biological Invasions*, *Ecological Indicators*, *Ecosphere*, *Fundamental and Applied Limnology*, *Freshwater Biology*, *Freshwater Science*, *Functional Ecology*, *Hydrobiologia*, *International Review of Hydrobiology*, *Journal of Applied Ecology*, *Journal of Environmental Management*, *Journal of Experimental Marine Biology and Ecology*, *Lakes & Reservoirs: Science, Policy and Management for Sustainable Use*, *Limnologica*, *Limnology & Oceanography*, *Oecologia*, *Oikos*, *River Research Application*, *Science of the Total Environment*, *Scientific Reports*