# CV for Nanna Isabella Bloch Hartmann (*1981)

**ORCiD:** 0000-0002-0442-245X; **WoS ResearcherID:** A-1678-2009 **LinkedIn:** nannahartmann

Nanna B. Hartmann is a senior researcher at the Technical University of Denmark (DTU) specialised in micro- and nanoplastics in the environment and in technical systems. Nanna is head of a research group consisting also of one PhD student and one Postdoc researcher. Through her research, she strives to obtain mechanistic understandings of the fate, degradation, and effects of plastics (including bioplastics) with the goal of informing upstream stakeholders, feeding into polymer design, policy and optimisation of treatment processes. Participant in several European and national research projects, funded by The Velux Foundation, Formas, Horizon Europe and Innovation Fund Denmark. She has a broad national and international research network and is involved in COST Action PRIORITY ('Plastics Monitoring Detection Remediation Recovery). She is co-lead on WG4 'Nanoplastics' and WG7 'Synergies with Society and Education', as well as Science Communication Coordinator for the Action. Strong interest in in science communication, disseminating scientific findings to regulators, media and the public. Experienced in e.g. popular science publications, podcasts and public talks

**Positions:**

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| 2015- | Senior Researcher, Department of Environmental & Resource Engineering, DTU |
| 2013- 2015 | Post doc researcher, Department of Environmental & Resource Engineering, DTU |
| 2011-2013 | Post doc researcher, JRC – Joint Research Centre of the European Commission, Institute for Health and Con-sumer Protection (IHPC), Nanobiosciences Unit, Italy |
| 2011 | Post doc researcher, Department of Environmental & Resource Engineering, DTU |
| 2009 | Guest Ph.D. Student, Edinburgh Napier University, School of Life Sciences, Edinburgh, UK |
| 2007-2011 | Ph.D Student, DTU, Department of Environmental & Resource Engineering, DTU |

**Education & training:**

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| 2022 | "Formidlingsakademiet": course in research communication under the Danish Royal Academy of Science, supported by the Novo Nordic Foundation and Carlsberg Foundation, class of 2021/2022 |
| 2008- | Courses at the Technical University of Denmark (DTU): Supervision of PhD students at DTU (2018), Research based consultancy (RDTU) (2016), Education in University Teaching (UDTU) (2014- 2015), Supervision of larger projects at DTU (2014), Teaching and Learning (2008). |
| 2011 | PhD in Ecotoxicology of nanomaterials, Technical University of Denmark |
| 2007 | M. Sc. in Environmental Engineering, Technical University of Denmark |

**Research Area:**

Fate and effects of micro- and nanoplastics in the environment and in technical systems. Mechanistic understanding of the fate, degradation, transport and effects of microplastics with a goal of informing upstream stakeholders and feed into technical process optimisation, ultimately supporting sustainable transitions.

**Distinctions and awards:**

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| 2022 | Listed on the 'World Ranking Top 2% Scientists' list for 2021, published by Stanford University |
| 2019 | Reinholt W. Jorck and Wife's Foundation Researcher Award 2019 (0.5 mio DKK). |

**Memberships of scientific committees, review:**

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| 2024- | Editor for Environmental Toxicology and Chemistry (IF: 4.218) |

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| 2022-2023 | Editorial Board member for Environmental Toxicology and Chemistry (IF: 4.218) |
| 2020- | Editorial Board member for Toxics (IF: 4.472) |
| 2019-2022 | Referee for the Swiss National Science Foundation (SNSF) (2020, 2022), the UK Natural Environment Re-search Council (NERC) (2020), the Singapore NRF Competitive Research Programme (CRP) (2019) and the Norwegian Research Council (2019) |
| 2018-2019 | Invited expert by the Group of Chief Scientific Advisors of the European Commission on "Human Health and Environmental Impacts of Micro and Nano Plastic (MNP)" |
| 2018- | Assessment Committee chair for 1 PhD thesis (DTU), PhD Examiner for 9 PhD theses (DK, SE, NO, ES) |
| 2016-2018 | Nominated expert for the ECHA Partner Expert Group (PEG) addressing the updates of REACH guidance on "recommendations for nanomaterials" covering environmental endpoints. |

**Web of Science publications:** 54**; Citations:** 6629**; *h*-index:** 33 (Scopus), 31 (WoS), 39 (Google Scholar) **; Other publications:** 6

**Supervision of PhDs**

Main supervisor for 1 PhD (Sevil Vadafar Afshar, ongoing) and co-supervisor for 3 PhDs (Denisa Cupi, 2015. Sinja Rist, 2019. Rocío Rodríguez Torres, 2022)

**Selected grants, 2018 – present:**

SusBrane ("Sustainable Industrial Laundry Wastewater Treatment by Advanced Membrane Technologies", Innovation Fund Denmark), Amount granted to Dept.: 8.167.119 DKK

BMRex ("Biocatalytic membranes for micro/nano plastic degradation within waste water effluents", Horizon Europe), Amount granted to Dept.: app. 500.000 DKK

EU Commission – Joint Research Centre, "Monitoring of micro and nanoplastics in drinking water and their potential effects of human health" – preparation of a technical report, Amount granted to Dept.: 112.103 DKK; Project period: 2022

The European Cooperation in Science and Technology (COST), "Plastics monitoRIng detectiOn RemedIaTion recoverY (PRIORITY), Amount granted to Dept.: ad hoc funding of network activities, Project period: 2022-2025

FORMAS, "Nanofragmentation of weathered plastics in marine environment – increased toxicity or biodegradability", Amount granted to Dept.: 358.150 DKK; Project period: 2020-2022

Velux Fonden, "MarinePlastic - The Danish center for research in marine plastic pollution", Amount granted to Dept.: 2.403.063 DKK, Project Period: 2019-2023

**Other significant contributions:**

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| 2021 | Member of assessment committee for two faculty positions at Aalborg University (2021) and one faculty position at Roskilde University (2023) |
| 2015-2018 | Member of the DTU Steering group on equality (2015- 2018) |

**Publications (2018 or later):**


Afshar, SV, Boldrin, A., Astrup, TF, Daugaard, AE and **Hartmann, NB**, 2024. Degradation of biodegradable plastics in waste management systems and the open environment: A critical review. Journal of Cleaner Production, 434, Article 140000.

Nielsen, AF, Polesel, F, Ahonen, T, Palmqvist, A, Baun, A and **Hartmann, NB,** 2024. Assessing the Biodegradability of Tire Tread Particles and Influencing Factors. Environmental toxicology and chemistry, 43(1), pp.31-41.

Brandon, A, Vanapalli, KR, Martin, OV, Dijkstra, H, De la Torre, GE, **Hartmann, NB**, Meier, MAR, Pathak, G, Busch, P-O, Ma, D, Iacovidou, E, Deere Birkbeck, C & Pacini, H 2023, 'Charting success for the Plastics Treaty', One Earth, vol. 6, no. 6, pp. 575-581. https://doi.org/10.1016/j.oneear.2023.05.022

Loeschner, K, Vidmar, J, **Hartmann, NB**, Bienfait, AM & Velimirovic, M 2023, 'Finding the tiny plastic needle in the haystack: how field flow fractionation can help to analyze nanoplastics in food', Analytical and Bioanalytical Chemistry, vol. 415, pp. 7-16. https://doi.org/10.1007/s00216-022-04321-y

Rodríguez Torres, R., Almeda, R., Xu, J., **Hartmann, NB**., Rist, S., Brun, P., & Nielsen, T. G. (2023). The Behavior of Planktonic Copepods Minimizes the Entry of Microplastics in Marine Food Webs. Environmental Science and Technology, 57(1). https://doi.org/10.1021/acs.est.2c04660

Luogo, B. D. P., Salim, T., Zhang, W., Hartmann, N. B., Malpei, F., & Candelario, V. M. (2022). Reuse of Water in Laundry Applications with Micro- and Ultrafiltration Ceramic Membrane. Membranes, 12(2), [223]. https://doi.org/10.3390/membranes12020223

Skjolding, LM, Sørensen, SN, Dyhr, KS, Hjorth, R, Schlüter, L, Hedberg, C, **Hartmann, NB**, Mayer, P & Baun, A 2022, 'Separating toxicity and shading in algal growth inhibition tests of nanomaterials and colored substances', Nanotoxicology, vol. 16, no. 3, pp. 265-275. https://doi.org/10.1080/17435390.2022.2080608

Xu, J, Rodríguez-Torres, R, Rist, S, Nielsen, TG, **Hartmann, NB**, Brun, P, Li, D & Almeda, R 2022, 'Unpalatable Plastic:Efficient Taste Discrimination of Microplastics in Planktonic Copepods', Environmental Science and Technology, vol. 56, no. 10, pp. 6455-6465.

Rist, S, **Hartmann, NB** & Welden, N **2021**, 'How fast, how far: Diversification and adoption of novel methods in aquatic microplastic monitoring', Environmental Pollution, vol. 291, 118174.

von Friesen, LW, **Hartmann, NB**, Gabrielsen, GW & Rist, S 2021, 'A Message in a Bottle From the North Pole–How Plastic Pollutes the Arctic Ocean', Frontiers for Young Minds, vol. 9, 613577. https://doi.org/10.3389/frym.2021.613577

Feld, L, da Silva, VH, Murphy, F, **Hartmann, NB** & Strand, J **2021**, 'A Study of Microplastic Particles in Danish Tap Water', Water, vol. 13, no. 15, 2097.

Simon, M, **Hartmann, NB** & Vollertsen, J **2021**, 'Accelerated weathering increases the release of toxic leachates from microplastic particles as demonstrated through altered toxicity to the green algae *raphidocelis subcapitata'*, Toxics, vol. 9, no. 8, 185.

Rist, S, **Hartmann, NB** & Welden, N 2021, 'How fast, how far: Diversification and adoption of novel methods in aquatic microplastic monitoring', Environmental Pollution, vol. 291, 118174. https://doi.org/10.1016/j.envpol.2021.118174

Kokalj, AJ, **Hartmann, NB**., Drobne, D., Potthoff, A and Kühnel, D, **2021**. Quality of nanoplastics and microplastics ecotoxicity studies: Refining quality criteria for nanomaterial studies. Journal of Hazardous Materials, 415, p.125751.

Syberg, K, Palmqvist, A, Khan, FR, Strand, J, Vollertsen, J, Clausen, LPW, Feld, L, **Hartmann, NB**, Oturai, N, Møller, S, Nielsen, TG, Shashoua, Y & Hansen, SF 2020, 'A nationwide assessment of plastic pollution in the Danish realm using citizen science', Scientific Reports, vol. 10, no. 1, 17773. https://doi.org/10.1038/s41598-020-74768-5

Schür, C, Rist, S, Baun, A, Mayer, P, **Hartmann, NB** & Wagner, M **2019**, When fluorescence is not a particle: The tissue translocation of microplastics in Daphnia magna seems an artIfact', Environmental Toxicology and Chemistry, vol. 38, no. 7, pp. 1495-1503.

**Hartmann, NB**, Hüffer, T, Thompson, RC, Hassellöv, M, Verschoor, A, Daugaard, AE, Rist, S, Karlsson, T, Brennholt, N, Cole, M, Herrling, MP, Hess, MC, Ivleva, NP, Lusher, AL & Wagner, M **2019**, 'Are We Speaking the Same Language? Recommendations for a Definition and Categorization Framework for Plastic Debris' Environmental Science & Technology, vol. 53, no. 3, pp. 1039-1047.

Rist, S, Baun, A, Almeda, R & **Hartmann, NB 2019**, 'Ingestion and effects of micro- and nanoplastics in blue mussel (*Mytilus edulis*) larvae' Marine Pollution Bulletin, vol. 140, pp. 423-430.

Rist, S., Steensgaard, I. M., Guven, O., Nielsen, T. G., Jensen, L. H., Møller, L. F., & Hartmann, N. B. (2019). The fate of microplastics during uptake and depuration phases in a blue mussel exposure system. Environmental Toxicology and Chemistry, 38(1), 99-105. https://doi.org/10.1002/etc.4285

Leong, HS, Butler, KS, Brinker, CJ, Azzawi, M, Conlan, S, Dufès, C, Owen, A, Rannard, S, Scott, C, Chen, C, Dobrovolskaia, MA, Kozlov, SV, Prina-Mello, A, Schmid, R, Wick, P, Caputo, F, Boisseau, P, Crist, RM, McNeil, SE, Fadeel, B, Tran, L, Hansen, SF, **Hartmann, NB** (……) & Pastore, C 2019, 'On the issue of transparency and reproducibility in nanomedicine', Nature Nanotechnology, vol. 14, no. 7, pp. 629-635. https://doi.org/10.1038/s41565-019-0496-9

Schür, C, Rist, S, Baun, A, Mayer, P, **Hartmann, NB** & Wagner, M 2019, 'WHEN Fluorescence is not a particle: The tissue translocation of microplastics in Daphnia magna seems an artIfact', Environmental Toxicology and Chemistry, vol. 38, no. 7, pp. 1495-1503. https://doi.org/10.1002/etc.4436

Rist, S., Almroth, BC, **Hartmann, NB**, Karlsson TM **2018** A critical perspective on early communications concerning human health aspects of microplastics. Science of the Total Environment, 626, pp. 720-726.

Ågerstrand, M, Christiansen, S, Hanberg, A, Rudén, C, Andersson, L, Andersen, S, Appelgren, H, Bjørge, C, Clausen, IH, Eide, DM, **Hartmann, NB**, Husøy, T, Halldórsson, HP, van der Hagen, M, Ingre-Khans, E, Lillicrap, AD, Beltoft, VM, Mörk, A-K, Murtomaa-Hautala, M, Nielsen, EE, Ólafsdóttir, K, Palomäki, J, Papponen, H, Reiler, EM, Stockmann-Juvala, H, Suutari, T, Tyle, H & Beronius, A 2018, 'A call for action: Improve reporting of research studies to increase the scientific basis for regulatory decision-making', Journal of Applied Toxicology, vol. 38, no. 5, pp. 783-785. https://doi.org/10.1002/jat.3578

Sundbæk, KB, Due Würtzner Koch, I, Greve Villaro, C, Rasmussen, NS, Løvstad Holdt, S & **Hartmann, NB** 2018, 'Sorption of fluorescent polystyrene microplastic particles to edible seaweed Fucus vesiculosus', Journal of Applied Phycology, vol. 30, no. 5, pp. 2923–2927. https://doi.org/10.1007/s10811-018-1472-8