



Dr. Róisín Nash

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Area of Expertise

Marine Ecology
Benthic Community Ecology (soft sediment and reefs)
Ecological Impact Assessments
Aquatic Pollution including microplastics

Research Centre/Area

Marine and Freshwater Research Centre (MFRC)

Biography

Completed a BSc (Hons) in Marine Science and a PhD in Zoology at the National University of Ireland, Galway in 1996 and 2001 respectively. Postdocs based at the Botany Department in NUI, Galway included intertidal surveying as part of the multidisciplinary survey of Clare Island, Project Manager of Seaweed Africa, an EU funded project, and the culturing of red algae to commercial scale for their natural preservatives, for use in cosmetic applications. Moved to the private sector in 2006 as a marine ecologist and subsequently became a Managing Director of a marine and freshwater consultancy (EcoServe) in Dublin. During this time working on several EU funded projects including MarBEF, PESI, and ComEnvir. Returned to academia in 2013 as a Lecturer and Researcher, Róisín is a mentor for 1 postdoc who received a CAROLINE (IRC - Marie Skłodowska-Curie Actions) and the main supervisor for 2 PhD (IRC - GoI Postgraduate Scholarships) and 2 MSc candidates researching microplastics in the Irish environment. Her current research is looking at estimating baseline concentrations of microplastics in water surface, benthic sediments and biota from environmental samples in both freshwater and marine ecosystems and exploring pathways and fate of microplastics within the Irish context.

Collaborators/Partners

Project collaborators present and past include those involved in EU and Irish research projects: Irish partners (EPA, Marine Institute, NPWS, Galway Aquarium, IWDG, UCC, NUIG, UCD, TCD etc.) and European partners (Plymouth University, MBA UK,

01/09/2022

University of St Andrews Scotland, Southampton University, Flanders Marine Institute VLIZ Belgium, NHM London, Alfred Wegener Institut für Polar- und Meeresforschung (AWI) Germany, Akvaplan-niva Norway, University of Porto Portugal, Royal Netherlands Institute for Sea Research (NIOZ), HCMR Crete etc.) and during my time as a consultant several project involved Industrial partners (Roughan & O'Donovan, BEC Consultants, Saorgus Energy, Fugro, RPS, Coffey Construction, ARUP etc.).

Publications

Frias, J and Nash, R. (2022), Methodologies to assess microplastics in the Anthropocene., In: The Influence of Microplastics on Environmental Health and Human Health – Key Considerations and Future Perspectives., Y. Lang (Eds) Taylor & Francis Group CRC Press/Chapman & Hall.

Joyce, H, Frias, J., Kavanagh, F., Lynch, R., Pagter, E., White, J., Nash, R (2022), Plastics, prawns, and patterns: Microplastic loadings in *Nephrops norvegicus* and surrounding habitat in the North East Atlantic., *Science of the Total Environment*, 154036 doi.org/10.1016/j.scitotenv.2022.154036

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O'Connor, J.D., Lally, H.T., Mahon, A.M., O'Connor, I., Nash, R., O'Sullivan, J.J., Bruen, M., Heerey, L., Koelmans, A.A., Marnell, F., Murphy, S. (2022), Modelling the transfer and accumulation of microplastics within a riverine food web., *Environmental Advances*, P100192

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Pagter, E., Nash, R., Frias, J.P.G.L., Kavanagh, F. (2021), Assessing microplastic distribution within infaunal benthic communities in a coastal embayment., *Science of the Total Environment*, 791:148278 <https://doi.org/10.1016/j.scitotenv.2021.148278>

Doyle, D., Frias, J.P.G.L, Nash, R., Gammell, M.P (2020), Current environmental microplastic levels do not alter emergence behaviour in the intertidal gastropod *Littorina littorea*, *Marine Pollution Bulletin*, 151 doi: 10.1016/j.marpolbul.2019.110859

Frias, J.P.G.L. Lyashevskaya, O., Joyce, H., Pagter, E., Nash, R. (2020), Floating microplastics in a coastal embayment: A multifaceted issue., *Marine Pollution Bulletin*, 158(111361)

Hara, J., Frias, J., Nash, R (2020), Quantification of Microplastic Ingestion by the Decapod Crustacean *Nephrops norvegicus* from Irish Waters., *Marine Pollution Bulletin*, 152: doi: 10.1016/j.marpolbul.2020.110905

O'Connor, J., Murphy S., Lally, H.T., O'Connor, I., Nash, R., O'Sullivan, J., Bruen, M., Heerey, L., Koelmans, A.A., Cullagh, A., Cullagh, D., Mahon, A.M. (2020), Prevalence of microplastics in brown trout *Salmo trutta* (L.) from an Irish riverine system: assessment of exposure resultant of environmental, dietary and biological factors, *Environmental Pollution*, 267 (115572)

Pagter, E., Frias, J.P.G.L., Kavanagh, F., Nash, R. (2020), Microplastic abundance in benthic sediments within Galway Bay, Ireland: baseline data and potential hotspots, *Estuarine, Coastal and Shelf Science*, 106915

Pagter, E., Frias, J.P.G.L., Kavanagh, F., Nash, R. (2020), Differences in microplastic abundances within demersal communities highlight the importance of an ecosystem-based approach to microplastic monitoring, *Marine Pollution Bulletin*, 160 (111644) <https://doi.org/10.1016/j.marpolbul.2020.111644>

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de Jong Y, Nash R, et al. (2015), PESI - a taxonomic backbone for Europe, *Biodiversity Data Journal*, 3: e5848

Nash, R. (2013), *The Oceans and Their Challenge to Conserve Marine Biodiversity*, In: P. Pechan & G. de Vries (Eds) *Living with Water: Targeting Quality in a dynamic world.*, Springer. pp201 ISBN 978-1-4614-3752-9

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01/09/2022