**Dr Dannielle Senga Green**

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**Education**

* 2012 – 2008: **PhD Marine Ecology**. University College Dublin, Ireland (supervised by Dr Tasman Crowe). Thesis: The impacts of non-indigenous oysters on biodiversity and ecosystem functioning. I used an interdisciplinary approach involving ecology, biogeochemistry and molecular biology to assess the impacts of oysters on benthic ecosystems. My PhD work was part of a large, interdisciplinary research programme examining the effects of human impacts on biodiversity and ecosystem services (www.tcd.ie/research/simbiosys/).
* 2007 – 2004: **BSc Marine Science (First class, 1:1 honours)**. University of Sydney, Australia (supervised by Prof. Gee Chapman). Thesis: The effect of rock-type on the biodiversity of boulder field communities. I researched the ecology of urbanised marine boulder fields.

**Employment**

* Current – 2016: **Senior lecturer** in the School of Life Sciences at Anglia Ruskin University. As well as conducting high impact research, I am responsible for leading the teaching on 3 modules (2 undergraduate marine ecology and 1 MSc on communication skills).
* 2016: **Visiting Research Fellow** at Warwick University in the School of Life Sciences, collaborating with Dr Joseph Christie-Oleza and Professor Elizabeth Wellington writing proposals and conducting preliminary research on microbial interactions with microplastics. Also collaborating with Civil Engineering Research Centre at Queen's University Belfast using hydrodynamic models to predict accumulation patterns of microplastics.
* 2013 – 2015: **Postdoctoral Research Fellow** at Trinity College Dublin in the Biogeochemistry Research Group led by Prof. Carlos Rocha. I obtained funding from the Irish Research Council to research the effects of plastic pollution on benthic ecosystems. I also supervised Master’s and Honours students and assisted in developing and teaching modules on marine biology and ecology for field courses.
* 2013 – 2012: **Postdoctoral consultant for the VECTORS project** (www.marine-vectors.eu/). I was invited to join this project due to my expertise on invasive marine species. I assisted with data preparation, organising meetings and co-ordinating analyses for Biological Traits Analysis and manuscript preparation.
* 2012 – 2008: **Tutor and teaching assistant**, University College Dublin, Ireland. Courses included: MSc Biol40010 Core skills in research, ENVB30010 Systems ecology, Zool30050 Biogeography and field biology, Zool20020 Animal behaviour and BIOL10010 Animal biology and evolution.
* 2008 – 2007: **Research assistant**, Centre for Research on the Ecological Impacts of Coastal Cities (EICC), University of Sydney, Australia (Employed by Prof. A.J. Underwood and Prof. M.G. Chapman). I managed, analysed and archived large, complex multivariate data sets from long-term experiments.
* July 2006 – Dec 2006: **Bursary student**, EICC, University of Sydney, Australia (Employed by Prof. R.A. Coleman). I designed, set up and maintained laboratory experiments, including large flow-through mesocosm systems.

**Funding Awarded (TOTAL TO DATE: > £600k)**

* 2019: **Funding to investigate microplastics and human health** (**£45,000**) from Anglia Ruskin University.
* 2019: **Scoping project on carbon capture in the oceans (£350,000)** supported by Hydrophis.
* 2019: **RIDO placement student funding Summer Studentship (£2000)**
* 2019: **Seed funding to investigate microplastics and human health** (**£10,000**) from the Fort Foundation.
* 2018: **RIDO placement student funding Summer Studentship (£2000)**
* 2018: **GSI funding for Conservation Coasters (£1500)** for a university plastic pollution art competition.
* 2015: **Researcher travel grant** (**€750**) from the Networking and Travel Grant Initiative, Marine Institute, Galway, Ireland.
* 2015: **Small research grant** (**£3,721**) from the South Atlantic Environmental Research Institute, Falkland Islands (**Principal Investigator**).
* 2014: **Small research grant** (**£705**) from the G&M Williams Research Fund, School of Biological Sciences, Queen’s University Belfast.
* 2013: **Irish Research Council Government of Ireland Two Year Postdoctoral Fellowship** (**€91,785**). (Grant number: GOIPD/2013/306) (**Principal Investigator**).
* 2013: **British Ecological Society Early Career Research Grant** (**£16,877**). (Grant number: 4498/5472) (**Principal Investigator**).
* 2011: **Researcher travel grant** (**€1000**) from the Networking and Travel Grant Initiative, Marine Institute, Galway, Ireland.
* 2008: **Sustainable Development One Year Doctoral Fellowship** (**€3000**) from the Urban Institute of Ireland, University College Dublin, Ireland.

**Peer reviewed publications**

* **Green, D.S.,** Jefferson, M., Boots, B., Stone, L. 2021. All that glitters is litter? Ecological impacts of conventional versus biodegradable glitter in a freshwater habitat. Journal of Hazardous Materials. doi.org/10.1016/j.jhazmat.2020.124070
* **Green, D.S.,** Boots B., Kregting., L. 2020. Smoked cigarette butt leachate impacts survival and behaviour of freshwater invertebrates. Environmental Pollution, https://doi.org/10.1016/j.envpol.2020.115286
* Oliveira, A.R., Sardinha-Silva, A., Andrews, P.L.R., **Green, D.S.,** Cooke, G.M., Hall, S., Blackburn, K., Sykes, A.V. 2020. Microplastics presence in cultured and wild-caught cuttlefish, Sepia officinalis. Accepted in Marine Pollution Bulletin.
* Dunn, C., Owens, J., Fears, L., Nunnerley, L., Kirby, J., Amstrong, O., Thomas, P., Aberg, D., Gilder, W., **Green, D.**, Antwis, R., Freeman, C. 2019. An affordable methodology for quantifying waterborne microplastics - an emerging contaminant in inland-waters. *Journal of Limnology*. In Press.
* Kratina, P., Watts, T.J., **Green, D.S.,** Kordas, R.L., O'Gorman, E.J. 2019. Interactive effects of warming and microplastics on metabolism but not feeding rates of a key freshwater detritivore. Environmental Pollution, 255(2), 113259.
* Boots, B., Russell, C.W., **Green, D.S.** 2019. Effects of Microplastics in Soil Ecosystems: Above and Below Ground. *Environ. Sci. Technol.* 53: 11496-11506.
* **Green, D.S.,** Boots, B., Da Silva Carvalho, J., and Starkey, T., 2019. Cigarette butts have adverse effects on initial growth of perennial ryegrass (gramineae: *Lolium perenne* L.) and white clover (leguminosae: *Trifolium repens* L.). *Ecotoxicology and Environmental Safety*.
* Peberdy, E., Jones, A., **Green, D.S.** 2019. A Study into Public Awareness of the Environmental Impact of Menstrual Products and Product Choice. *Sustainability,* 11(2): 473.
* **Green, D.S.,** Colgan, T.J., Thompson, R.C., Carolan, J.C. 2019. Exposure to microplastics reduces attachment strength and alters the haemolymph proteome of blue mussels (*Mytilus edulis*). *Environmental Pollution*, 246: 423-434.
* **Green, D.S.,** Kregting, L., Boots, B., Blockley, D.J., Brickle, P., da Costa, M., Crowley, Q. 2018. A comparison of sampling methods for seawater microplastics and a first report of the microplastic litter in coastal waters of Ascension and Falkland Islands. *Marine Pollution Bulletin*, 137: 695-701.
* **Green, D.S.**,Christie, H., Pratt, N., Boots, B., Godbold, J., Solan, M. and Hauton, C. 2017. Competitive interactions moderate the effects of elevated temperature and atmospheric CO2 on the health and functioning of oysters. *Marine Ecology Progress Series,* 582: 93-103.
* **Green, D.S.,** Boots, B., O'Connor, N. and Thompson, R.C. 2017. Microplastics affect the ecological functioning of an important biogenic habitat. *Environmental Science and Technology*, 51(1): 68-77.
* **Green, D.S.** 2016. Effects of microplastics on European flat oysters, *Ostrea edulis* and their associated benthic communities.*Environmental Pollution,* 216: 95-103.
* **Green, D.S.,** Boots, B., Sigwart, J., Jiang, S. and Rocha, C. 2016. Effects of conventional and biodegradable microplastics on a marine ecosystem engineer (*Arenicola marina*) and sediment nutrient cycling. *Environmental Pollution* 208: 426-434*.*
* **Green, D.S.,** Boots, B., Blockley, D.J., Rocha, C. and Thompson, R.C. 2015. Impacts of discarded plastic bags on marine assemblages and ecosystem functioning. *Environmental Science and Technology*: http://dx.doi.org/10.1021/acs.est.5b00277.
* **Green, D.S.** and Crowe, T.P. 2014. Context- and density- dependent effects of introduced oysters on biodiversity. *Biological Invasions* 16(5): 1145-1163.
* **Green, D.S.** and Crowe, T.P. 2013. Physical and biological effects of introduced oysters on biodiversity in an intertidal boulder-field. *Marine Ecology Progress Series* 482: 119-132.
* Salvaterra, T., **Green, D.S.**, Crowe, T.P. and O’Gorman, E. 2013. Impacts of the invasive alga *Sargassum muticum* on ecosystem functioning and food web structure. *Biological Invasions* 15(11): 2563-2576*.*
* **Green, D.S.**, Rocha, C. and Crowe, T.P. 2013. Effects of non-indigenous oysters on ecosystem processes vary with abundance and context. *Ecosystems* 16(5): 881-893.
* **Green, D.S.**, Boots, B. and Crowe, T.P. 2012. Effects of non-indigenous oysters on microbial diversity and ecosystem functioning. *PLOS One* 7(10): e48410. doi:10.1371/journal.pone.0048410.
* **Green, D.S.**, Chapman, M.G. and Blockley, D.J. 2012. The ecological consequences of the type of rock used in the construction of artificial boulder-fields. *Ecological Engineering* 46: 1-10.

**Other academic output**

* **Green, D.S.** 2020. Biological and Ecological Impacts of Plastic Debris in Aquatic Ecosystems. In: The Handbook of Environmental Chemistry. Springer, Berlin, Heidelberg. https://doi.org/10.1007/698\_2020\_509.
* Callier, M., Crowe, T.P., **Green, D.S.**, Kochmann, J., O’Beirn, F. and O’Brien, G. 2011. Strategic overview of influences of aquaculture on biodiversity and ecosystem services in Ireland. Report for the Environmental Protection Agency, Wexford.

**Impact – Expert roles**

* Lead contributor and section author for the United Nations Environment Programme (UNEP) upcoming 2020 Assessment of Marine Litter and Microplastics. Co-led the workshop in Nairobi, Kenya Feb 22-26th 2020.
* Technical expert on biodegradable plastics by the European Environmental Bureau and Fauna and Flora International to provide evidence at the European Chemicals Agency (ECHA) RAC Committee meeting in Helsinki on Tuesday 26th of November 2019.
* Steering committee member for British Standards Institute (BSI) for development of new standard for biodegradability in the case of littering in the terrestrial environment, 2020.
* Invited expert at the British Standards Institute (BSI) workshop on standards Biodegradation of plastic in the case of littering in the natural environment, workshop’ on 25th July 2019.
* Invited reviewer and workshop participant at the DEFRA workshop 12/13 March 2019, London: Marine Plastic Pollution Evidence Review underpinning Policy and Gap Analysis on Marine and Fisheries Policy Areas.
* Scientific advisor for the Oceans Together Business Forum at DP World, London Gateway.

**Other expert roles**

Chair of the School Research Ethics Panel

Panel member for 2 UKRI-NERC calls on plastic in 2020.

Expert reviewer of several calls for EU Horizon 2020 grants over the past 2 years.

Expert reviewer of several NERC and BBSRC grants over the past 3 years.

Guest editor of special issue “Plastics in the environment” in PLOS ONE.

**Outreach**

Regular guest on the podcast The Naked Scientists & co-host on special marine episode.

Several BBC television appearances and CCTV documentary on plastic pollution.

>20 radio interviews including on the BBC World News.

>300 news and blog posts about my research.

Keynote speaker for World Ocean’s Day 2018 for Cambridge Conservation Forum.

Soapbox Science 2018 at the Cambridge Strawberry Festival.

**Outreach - Public Lectures**

* **Green, D.S.** Environmental impacts of plastic pollution in the oceans. World Ocean’s Day, David Attenborough Centre, Cambridge, July, 2019.
* **Green, D.S.** Stuck in the muck: hidden diversity at Booterstown Marsh and threats from plastic pollution. Fitzpatrick's Castle Hotel, Killiney, Ireland, 2nd February, 2016. Invited public speaker for Birdwatch Ireland.
* **Green, D.S.** Are microplastics a macro-problem for the South Atlantic? Chamber of Commerce, Stanley, Falkland Islands, 12th August, 2015. Invited public speaker for the South Atlantic Environmental Research Institute.
* **Green, D.S.** Stuck in the muck: hidden diversity at Booterstown Marsh and threats from plastic pollution. 13th May, 2015. Invited as keynote speaker for the Annual General Meeting of An Taisce (National Trust for Ireland).

**Invited seminars and workshops**

* **Green, D.S.** Are “green” plastics really better for the environment? 14th June, University of Sheffield, United Kingdom.
* **Green, D.S.** Ecological impacts of conventional vs biodegradable plastics. 8th March, Plymouth University, United Kingdom.
* **Green, D.S.** Potential impacts of microplastics on marine ecosystems? 5th November, 2015, Warwick University, United Kingdom.
* Vectors – Biological Traits Analysis Workshop. Royal Astronomical Society, London, UK. 12th December, 2012.
* **Green, D.S**. Effects of non-indigenous oysters (*Crassostrea gigas*) on the structure and functioning of estuarine ecosystems. 20th November, 2012, Queen's University Belfast, Northern Ireland.
* **Green, D.S.** and Crowe, T.P. Establishment and potential impacts of wild *Crassostrea gigas* in Ireland. IBIS 1st Knowledge Transfer Workshop Queen’s University, Shellfish Regulation and Management, 13th - 14th September, 2012, Exploris Aquarium, Portaferry, Northern Ireland.

**Conference presentations**

* **Green, D.S.** Micromed conference on microplastics in the Mediterranean, Capri Sept 2018.
* **Green, D.S.** Micromed conference on microplastics in the Mediterranean, Capri Sept 2017.
* **Green, D.S.** British Ecological Society Annual Meeting, 13th - 16th Dec 2015, Edinburgh, Scotland, UK.
* **Green, D.S.**, Boots, B., Rocha, C. and Thompson, R.C. Aquatic Biodiversity and Ecosystems Conference, 30th Aug - 5th Sept, 2015, Liverpool, UK.
* **Green, D.S.** British Ecological Society and the French Ecology Society (BES-FE) joint meeting, 9th – 12th December, Lille, France.
* **Green, D.S.** ENVIRON 2014, 26th – 28th March, Trinity College Dublin, Ireland.
* **Green, D.S.**, Boots, B. and Crowe, T.P. INTECOL 2013, 18th – 23rd August, London, England.
* **Green, D.S.**, Boots, B., Rocha, C. and Crowe, T.P. EPA-STRIVE conference, 2012, Trinity College Dublin.
* **Green, D.S.** and Crowe, T.P. 2012. ENVIRON 2012, 7th – 9th March, University College Dublin.
* **Green, D.S.**, Rocha, C., McGonigle, C. and Crowe, T.P. 2011. Seminar Day, University College Dublin.
* **Green, D.S.**, Rocha, C. and Crowe, T.P. 2011. EPA Postgraduate Seminar Day, Dublin.
* **Green, D.S.**, Rocha, C., McGonigle, C. and Crowe, T.P. 2011. World Conference on Marine Biodiversity, 26th – 30th September, Aberdeen.
* **Green, D.S.** and Crowe, T.P. 2011. 9th International Temperate Reefs Symposium, Plymouth.
* **Green, D.S.**, Rocha, C. and Crowe, T.P. 2011. ENVIRON 2011, University College Cork.
* **Green, D.S.**, Rocha, C and Crowe, T.P. 2010. Annual EPA Postgraduate Seminar Day, Dublin.
* **Green, D.S.**, Rocha, C. and Crowe, T.P. 2010. British Ecological Society Annual Meeting, Leeds, UK.
* **Green, D.S.**, Rocha, C and Crowe, T.P. 2009. European Marine Biology Symposium, Liverpool, UK.