

Cristina Di Muri

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WORK EXPERIENCE

- May 2023 – present **Research Technologist**
CNR-IRET (Lecce), Italy
Interdisciplinary semantic interoperability within the Italian Integrated Environmental Research Infrastructures System (ITINERIS) Project
- Feb 2021 – May 2023 **Post-Doctoral Researcher**
CNR-IRET (Lecce), Italy
Research activities within the LifeWatch ERIC Internal Joint Initiative
“Short- and long-term ecological responses of aquatic ecosystems to biological invasions”

EDUCATION

- Sept 2016 – Mar 2021 **PhD in Biological Sciences**
University of Hull (Hull), United Kingdom
Thesis: *Environmental DNA (eDNA) monitoring of priority conservation fish species in UK lentic ecosystems*
- Jun 2016 **State Exam - professional qualification Biologist**
- Sept 2011 – Oct 2014 **MSc in Marine Biology (final grade 110/110 *summa cum laude*)**
Marche Polytechnic University (Ancona), Italy
Thesis: *Temporal genetic analysis of genetic structure of European anchovy (*Engraulis encrasicolus*, Linnaeus 1758) in the Adriatic sea*
- Sept 2008 – Feb 2012 **BSc in Biological Sciences (final grade 110/110)**
Marche Polytechnic University (Ancona), Italy

GRANTS & POSTGRADUATE WORK

- Jan 2019 – Feb 2019 **Temporary Staffing Service – Occasional Worker**
Laboratory Assistant, University of Hull, Hull, UK
- Sept 2015 – Mar 2016 **CAMPUS WORLD Grant**
Research Internship, University of Salford, Greater Manchester, UK
- Jun 2015 – Sept 2015 **Dive Master**
Diving Fraula, Otranto (Lecce), Italy
- Sept 2012 – Mar 2013 **ERASMUS Grant**
Research Internship, University of Ghent, Belgium

PUBLICATIONS

Arvanitidis C, Basset A, van Tienderen P, Huertas Olivares CI, **Di Muri C**, de Moncuit L, Los W (2024) LifeWatch ERIC Strategic Working Plan Outcomes. *Research Ideas and Outcomes* 10: e119943. <https://doi.org/10.3897/rio.10.e119943>

- Arvanitidis C, Basset A, van Tienderen P, de Moncuit L, Huertas Olivares CI, **Di Muri C**, Mellado A, Los W (2024) LifeWatch ERIC: papers collection on original datasets and new e-services for the biodiversity and ecosystems' scientific community. *Biodiversity Data Journal* 12: e119804. <https://doi.org/10.3897/BDJ.12.e119804>
- Cicala D, Guerra MT, Bardelli R, **Di Muri C**, Ludovisi A, Vizzini S, Mancinelli G (2023) Isotopic Overlap of Invasive and Native Consumers in the Food Web of Lake Trasimeno (Central Italy). *Biology* 12(9),1270. <https://doi.org/10.3390/biology12091270>
- Di Muri C**, Lazic T, Rosati I, Pierri C, Boggero A, Corriero G, Basset A (2023) Alien and native species in Italian marine and transitional waters. *Biodiversity Data Journal* 11: e101464 <https://doi.org/10.3897/BDJ.11.e101464>
- Di Muri C**, Arvanitidis C, Basset A, De Giorgi R, Rosati I, Vaira L, Mancinelli G (2023) The validation case on invasive crustaceans of the LifeWatch ERIC Internal Joint Initiative: state of the art and next steps forward. *Frontiers in Environmental Sciences - Conservation and Restoration Ecology* 10:1038635. <https://doi.org/10.3389/fenvs.2022.1038635>
- Mancinelli G, Dailianis T, Dounas C, Kasapidis P, Koulouri P, Skouradakis G, Bardelli R, **Di Muri C**, Guerra MT, Vizzini S (2022) Isotopic niche and trophic position of the invasive portunid *Portunus segnis* Forskål, (1775) in Elounda Bay (Crete Island, Eastern Mediterranean). *Sustainability* 14(22), 15202. <https://doi.org/10.3390/su142215202>
- Di Muri C**, Alcorlo P, Bardelli R, Catalan J, Gacia E, Guerra MT, Rosati I, Soto DX, Vizzini S, Mancinelli G (2022) Individual and population-scale carbon and nitrogen isotopic values of *Procambarus clarkii* in invaded freshwater ecosystems. *Biodiversity Data Journal* 10: e94411. <https://doi.org/10.3897/BDJ.10.e94411>
- Di Muri C**, Handley LL, Bean CW, Benucci M, Harper LR, James B, Li J, Winfield IJ, Hänfling B (2022) Spatio-temporal monitoring of lake fish spawning activity using environmental DNA metabarcoding. *Environmental DNA* 00, 1-12. <https://doi.org/10.1002/edn3.343>
- Di Muri C**, Rosati I, Bardelli R, Cilenti L, Veli DL, Falco S, Vizzini S, Katselis GN, Kevrekidis K, Glamuzina L, Mancinelli G (2022) An individual-based dataset of carbon and nitrogen isotopic data of *Callinectes sapidus* in invaded Mediterranean waters. *Biodiversity Data Journal* 10: e77516. <https://doi.org/10.3897/BDJ.10.e77516>
- Blackman RC, Osathanunkul M, Brantschen J, **Di Muri C**, Harper LR, Mächler E, Hänfling B, Altermatt F (2021) Mapping biodiversity hotspots of fish communities in subtropical streams through environmental DNA. *Scientific reports* 11(1), 1-1. <https://doi.org/10.1038/s41598-021-89942-6>
- Blabolil P, Harper LR, Říčanová Š, Sellers G, **Di Muri C**, Jůza T, Vašek M, Sajdlová Z, Rychtecký P, Znachor P, Hejzlar J (2021) Environmental DNA metabarcoding uncovers environmental correlates of fish communities in spatially heterogeneous freshwater habitats. *Ecological Indicators* 126: 107698. <https://doi.org/10.1016/j.ecolind.2021.107698>
- Di Muri C**, Lawson Handley L, Bean CW, Li J, Peirson G, Sellers GS, Walsh K, Watson HV, Winfield IJ, Hänfling B (2020) Read counts from environmental DNA (eDNA) metabarcoding reflect fish abundance and biomass in drained ponds. *Metabarcoding and Metagenomics* 4: e56959. <https://doi.org/10.3897/mbmq.4.56959>
- Harper LR, Lawson Handley L, Carpenter AI, Ghazalid M, **Di Muri C**, Macgregor CJ, Logan TW, Law A, Breithaupt T, Read DS, McDevitt AD, Hänfling B (2019) Environmental DNA (eDNA)

metabarcoding of pond water as a tool to survey conservation and management priority mammals. *Biological Conservation* 238: 108225. <https://doi.org/10.1016/j.biocon.2019.108225>

Li J, Lawson Handley LJ, Harper LR, Brys R, Watson HV, **Di Muri C**, Zhang X, Hänfling B (2019) Limited dispersion and quick degradation of environmental DNA in fish ponds inferred by metabarcoding. *Environmental DNA* 1(3), 238-250. <https://doi.org/10.1002/edn3.24>

Sellers GS, **Di Muri C**, Gómez A, Hänfling B (2018) Mu-DNA: a modular universal DNA extraction method adaptable for a wide range of sample types. *Metabarcoding and metagenomics* 2:e24556. <https://doi.org/10.3897/mbmg.2.24556>

Di Muri C, Vandamme SG*, Peace C, Barnes W, Mariani S (2018) Biodiversity defrosted: unveiling non-compliant fish trade in ethnic food stores. *Biological Conservation* 217: 419-427. <https://doi.org/10.1016/j.biocon.2017.11.028>

Shum P, Moore L, Pampoulie C, **Di Muri C**, Vandamme SG, Mariani S (2017) Harnessing mtDNA variation to resolve ambiguity in “Redfish” sold in Europe. *PeerJ* 5:e3746. <https://doi.org/10.7717/peerj.3746>

Ruggeri P, Splendiani A, **Di Muri C**, Fioravanti T, Santojanni A, Leonori I, De Felice A, Biagiotti I, Carpi P, Arneri E, Nisi Cerioni P, Giovannotti M, Caputo Barucchi V (2016) Coupling demographic and genetic variability from archived collections of European anchovy (*Engraulis encrasicolus*). *PLoS ONE* 11(3): e0151507. <https://doi.org/10.1371/journal.pone.0151507>

Vandamme SG, Griffiths AM, Taylor S, **Di Muri C**, Hankard EA, Towne JA, Watson M, Mariani S (2016) Sushi barcoding in the UK: another kettle of fish. *PeerJ* 4:e1891. <https://doi.org/10.7717/peerj.1891>.

CONFERENCES

British Ecological Society (BES) Annual Meeting. Belfast, **December 2023 (Talk)**.

GenOA week 2023. Genoa, **October 2023 (Talk)**.

The LifeWatch ERIC Biodiversity and Ecosystems eScience Conference (BEeS). Seville, **May 2023 (Talk)**.

SFE² GfÖ EEF Joint meeting, International Conference on Ecological Sciences, Ecology and Evolution. Metz, **November 2022 (Attendance)**.

Biodiversity Information Standards (TDWG) Conference 2022. Hybrid conference, **October 2022 (Online Attendance)**.

Open Traits Network 2022. Virtual Meeting, **September 2022 (Online Attendance)**.

XXVI Congress of the Italian Association of Limnology and Oceanology. Hybrid conference, **June 2022**. *The validation case on invasive crustaceans of the LifeWatch ERIC Internal Joint Initiative: state of the art and next steps forward (Talk)*.

UK DNA Working Group Meeting 2020, Natural History Museum of London, **January 2020**. *Targeted or whole-community? A “sensitive” matter for environmental samples (Speed talk)*.

FSBI 2019, University of Hull, **July 2019**. *Harnessing freshwater samples to investigate Arctic charr spawning activity: a temporal eDNA study at Windermere (Talk)*. **Awarded as Runner Up prize.**

BES 2018, University of Birmingham, **December 2018**. *Harnessing freshwater samples to investigate Arctic charr spawning activity: a temporal eDNA study at Windermere (Talk)*.

UK DNA Working Group Meeting 2018, University of Derby, **November 2018**. *Draining-down the lakes: evaluating performances of eDNA metabarcoding protocols for fish biodiversity and abundance assessment (Talk)*.

FSBI 2017, University of Exeter, **July 2017**. *Environmental DNA monitoring of conservation priority fish in UK waters (Poster)*.

FSBI 2017, University of Exeter, **July 2017**. *Fish biodiversity defrosted: unveiling non-compliant seafood trade in British ethnic food shops (Talk)*.



ADDITIONAL SKILLS

Fieldwork and laboratory:

- Design, planning and implementation of water sampling techniques;
- Scientific diving for biomonitoring (i.e. visual census, transects, quadrats);
- Sensitive DNA samples handling (environmental DNA and ancient DNA);
- DNA extraction (commercial kits and protocols) and DNA purification;
- Standard PCR and RT-PCR (SYBR Green & TaqMan);
- Gel electrophoresis;
- Illumina library preparation and NGS sequencing;
- Molecular assays development, validation and optimisation.

Digital:

- R programming language (Advanced);
- Jupyter notebook computing platform (Beginner);
- SKOS data model (Beginner);
- RDF data schema (Beginner);
- VocBench semantic editing tool (Beginner).

Teaching:

- Demonstrator in practical classes, University of Hull (Hull, UK);
- Mentoring for BSc students in their final year project, University of Salford (Salford, Greater Manchester, UK).

Languages:

- Italian (Mother tongue);
- English (Proficient: understanding, speaking and writing).

Committees:

- SFE² GfÖ EEF Joint meeting, International Conference on Ecological Sciences, Ecology and Evolution. Metz, November 2022. Organisation of the LifeWatch ERIC IJI Workshop: “e-Tools and resources to address key ecological questions on Non-indigenous and Invasive Species”;

- SFE² GfÖ EEF Joint meeting, International Conference on Ecological Sciences, Ecology and Evolution. Metz, November 2022. Organisation of the LifeWatch ERIC Symposium: “Advanced facilities for the ecological research: the European Research Infrastructures”;
- XXX Convention of the sea – Mareamico. Organising committee. Gallipoli, October 2021;
- LifeWatch ERIC e-Science for NIS research Workshop. Organising committee. Online Workshop, May-June 2021;
- FSBI 2019. Local organising committee. University of Hull, July 2019;
- Postgraduate Student Representative and organisation of Postgraduate Research Day, University of Hull, from 2017 to 2020.



LICENCES AND CERTIFICATIONS

- Dive Master - CMAS (2015);
- Basic Life Support and Defibrillation, BLS-D Operator (2015);
- EcoDiver for Indo-Pacific area, Reef Check (2011);
- European Computer Driving Licence, ECDL – AICA, ECDL Foundation (2011);
- Driving Licence B (2008).