

Curriculum Vitae

Frane Madiraca

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Profile

I am a marine biologist and ecologist interested in understanding how marine ecosystems and associated communities are shaped, in space and time, by their environment and anthropogenic impacts. I am particularly interested in how these processes are reflected in ecological interactions, changes in biodiversity, food web and population dynamics, functional trait and spatial ecology of marine organisms and in the provision of important functions and services in the associated ecosystems. To efficiently tackle such topics, I am interested in the application of various research techniques and methods. These include data analysis and statistical modelling, use of biochemical tracers, visual surveys, telemetry and other common field and laboratory-based approaches.

Education

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| 2020 - Present | Ph.D. Biology
<i>Marine Ecosystem Dynamics and Management, Institute of Marine Ecosystem and Fishery Science, University of Hamburg, Hamburg, Germany</i>
Supervisors: Dr. Saskia A. Otto & Prof. Dr. Christian Möllmann |
| 2013 - 2016 | M.Sc. Marine biology and ecology
<i>University Department of Marine Studies, University of Split, Split, Croatia</i>
Thesis title: Biological and fisheries data on the bluntnose sixgill shark, <i>Hexanchus griseus</i> (Bonnaterre, 1788) in landings from Maltese national and international waters
Supervisor: Prof. Dr. Sanja Matić-Skoko
Graduate thesis grade: 5/5 (Excellent) - Converted to German grade point average: 1
Graduate study programme grade: 4.844/5 (Excellent) - Converted to German grade point average: 1.1 |
| 2010 - 2013 | B.Sc. Marine biology and ecology
<i>University Department of Marine Studies, University of Split, Split, Croatia</i>
Thesis title: Distribution and bio-ecological characteristic of the thresher shark (<i>Alopias vulpinus</i>) with a special overview on the Adriatic
Supervisor: Prof. Dr. Ivan Jardas
Bachelor thesis grade: 5/5 (Excellent) - Converted to German grade point average: 1
Bachelor study programme grade: 3.686/5 (Very good) - Converted to German grade point average: 2.3 |

Research experience

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| Nov, 2020 - Present | Research Assistant
<i>Marine Ecosystem Dynamics and Management, Institute of Marine Ecosystem and Fishery Science, University of Hamburg, Hamburg, Germany</i>
Supervisors: Dr. Saskia A. Otto & Prof. Dr. Christian Möllmann <ul style="list-style-type: none">• Conducting the assessment of the ecosystem state of the Western Baltic Sea |
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Aug - Oct, 2020	Research stay <i>WG Reef Systems, Leibniz Centre for Tropical Marine Research, Bremen, Germany</i> Supervisor: Dr. Sonia Bejarano <ul style="list-style-type: none"> Conducted functional trait ecology research on reef fish from tropical Pacific and Atlantic Oceans Conducted research on the functional role of coastal sharks in the tropical Pacific Ocean
Mar - Jul, 2020	Internship <i>WG Resource Management, Leibniz Centre for Tropical Marine Research, Bremen, Germany</i> Supervisor: Dr. Moritz Stäbler <ul style="list-style-type: none"> Carried out the development of a novel approach for holistic analysis of food web structure and functioning
Nov, 2017 – May, 2018	Internship <i>University department of Marine Studies, University of Split, Split, Croatia</i> Supervisor: Dr. Frane Škeljo <ul style="list-style-type: none"> Conducted otolith analysis for the purpose of growth and population ecology research of bouge (<i>Boops boops</i>)
Apr - Aug, 2016	Erasmus+ internship <i>Instituto de Ciencias del Mar, Barcelona, Spain</i> Supervisor: Dr. Joan B. Company <ul style="list-style-type: none"> Worked on spatial ecology analysis, fisheries and taxonomic research of several crustacean species (larval and adult life cycle stages) from the Catalan Sea Participated in zooplankton sampling on a scientific cruise Participated in biological sampling and fisheries data collection on board a trawler fishing vessel
Jan - May, 2015	Erasmus+ internship <i>Sharklab-Malta, Naxxar, Malta</i> Supervisor: Greg Nowell <ul style="list-style-type: none"> Conducted detailed biological and fisheries data collection and research on the bluntnose sixgill shark (<i>Hexanchus griseus</i>) for the purpose of producing my graduate thesis Conducted total mercury content and age analysis on <i>H. griseus</i> Conducted biological and fisheries data collection and research on sharks and rays landed at the local fish market and in field based observational activities Maintained Sharklab-Malta's database containing observation reports on shark and ray species landed at the local fish market Involved in the ongoing project of collecting small-spotted catshark (<i>Scyliorhinus canicula</i>) and nursehound (<i>S. stellaris</i>) eggs, taking care for hatched specimens and releasing them back into the wild Involved in conservation and public education activities and projects
May, 2014	Practice <i>Laboratory of Ichthyology and coastal Fishery, Institute of oceanography and fisheries, Split, Croatia</i> Supervisor: Dr. Branko Dragičević <ul style="list-style-type: none"> Conducted otolith analysis, dissections and data collection on several fish species

Jan - Jun, 2014	Practice <i>Laboratory for Aquaculture, Institute of oceanography and fisheries, Split, Croatia</i> Supervisor: Dr. Leon Grubišić <ul style="list-style-type: none"> Assisted the staff in research activities Conducted maintenance of fish tanks and took care of fish, cephalopods and crustaceans at the aquarium facility
Dec, 2012 – Present	Membership <i>Sharklab International, Naxxar, Malta</i> <ul style="list-style-type: none"> Conducted various research activities
Other relevant activities	
Oct, 2019 – Sept, 2020	Guest Student <i>Carl von Ossietzky University of Oldenburg, Oldenburg, Germany</i>
Sept, 2019	Participant <i>ICYMARE (International Conference for YOUNG Marine Researchers) 2019 BREMEN conference, Bremen, Germany</i> <ul style="list-style-type: none"> Attended conference talks and workshops
Sept, 2019	Participant <i>YOUMARES 10 (conference for young marine researchers), Hamburg, Germany</i> <ul style="list-style-type: none"> Attended conference talks and workshops
Nov, 2018	Participant <i>CAPTURE International Year of the Reef Colloquium, Leibniz Centre for Tropical Marine Research (ZMT) GmbH, hosted at Haus der Wissenschaft, Bremen, Germany</i> <ul style="list-style-type: none"> Attended lectures and discussions on reef ecology and ecosystem services derived from reefs and reef restoration
Sept, 2018	Participant <i>3rd International Summer School on Stable Isotopes in Animal Ecology, Leibniz Institute for Zoo and Wildlife Research (IZW), Berlin, Germany</i> <ul style="list-style-type: none"> Expanded knowledge on the use of stable isotope analysis in animal ecology
Apr, 2018	Participant <i>The Survivor's Guide to Stable Isotopes Ecology II, SCIE Center Siracusa, Syracuse, Italy</i> <ul style="list-style-type: none"> Learned about the application of stable isotopes in ecology, how to conduct laboratory analysis and how to process the obtained data
Jun, 2016	Participant <i>Robex International Summer School, Vulcano, Italy</i> <ul style="list-style-type: none"> Collected physical oceanography data and data on underwater fauna using underwater cameras
	Peer reviewer <ul style="list-style-type: none"> Acta Adriatica Annales, Ser. Hist. Nat.

Publications

2018	Udovičić D, Ugarković P, Madiraca F & Dragičević B (2018). On the recent occurrences of shortfin mako shark, <i>Isurus oxyrinchus</i> (Rafinesque, 1810) in the Adriatic Sea. Acta Adriatica. 59 (2), 237-243.
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- 2015 **Madiraca F**, Davidov B & Udovičić D (2015). Analyses on the occurrence of pelagic sharks in the Eastern Adriatic Sea. *Revista Pluralidade*. 5, 27 pp.
- 2015 **Madiraca F** & Davidov B. (2015). The first record of the bigeye thresher shark, *Alopias superciliosus* (Elasmobranchii: Lamniformes: Alopiidae) in the Adriatic Sea. In: Tsiamis et al., 2015. *New Mediterranean Biodiversity Records* (July 2015). *Med. Mar. Sci.* 16 (2), 472-488.

Conferences

- 2022 **Madiraca F**, Möllmann C, Dutheil C, Markus Meier HE & Otto SA. Poster: Past and future range shifts of Western Baltic fish – how did we get there and where do we go now? 5th International Symposium on the Effects of Climate Change on the World's Ocean. Bergen, Norway.
- 2022 **Madiraca F**. Keynote presentation: A functional perspective: Trait-based approaches in ecosystem state assessments. ICYMARE 2022 BREMERHAVEN. Bremerhaven, Germany
- 2021 **Madiraca F**, Woźniacka K, Möllmann C & Otto SA. Presentation: Spatio-temporal dynamics of fish in the face of climate change: Application of species distribution models in the Baltic Sea. ICYMARE 2021 ONLINE. Online attendance.

Media presence

- 2019 Commentary for “Stručnjaci o morskim psima u Jadranu: Tunolovci ih stalno viđaju. Modrulj grize iz straha, a 'veliki bijeli' iz zabune. Ako ih kojim slučajem vidite, ostanite vertikalno u moru i mirno se udaljite” article in *Slobodna Dalmacije* (in Croatian)
- 2015 **Madiraca F**. (2015). “Upoznajmo morskog psa modrulja – pravog prekooceanskog putnika”. *Podvodni.hr*. (in Croatian)
- 2014 **Madiraca F**. (2014). “Ralje u Jadranu - ima li ovdje morskih pasa?”. *Podvodni.hr*. (in Croatian)

Awards

- 2016 Erasmus+ internship funding
- 2014 Erasmus+ internship funding

Skills and further qualifications

General:

- Advanced knowledge of marine biology, ecology, and oceanography
- Advanced knowledge of various statistical analysis and modelling techniques

Software:

- MS Office (Advanced proficiency)
- R programming language (Advanced proficiency)
- Statistica (Advanced proficiency)
- Minitab 17 (Advanced proficiency)
- Ecopath with Ecosim (Basic proficiency)
- QGIS (Basic familiarity)
- SQL (Basic familiarity)
- Ichthyop (Basic familiarity)

Field work:

- Biological, fisheries and oceanographic data collection
- Use of underwater cameras
- Fish market and vessel-based surveys

Laboratory:

- General sample processing and storing
- Lyophilization
- Trace element sample processing and analysis

Language:

- Croatian (Native)
- English (Fluent)
- Spanish (Good knowledge, currently learning)
- German (Good knowledge)

Technical qualifications:

- Diving licence: CMAS*
- Driving licence: B category

Other skills:

- Photography
- Videography