

Vasilis Trygonis

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I hold a PhD in Fisheries Acoustics, an MSc in Offshore and Ocean Technology, specializing in Diving and Underwater Technology, and an MEng in Mechanical Engineering. My research focuses on the applications of hydroacoustic technology to marine ecology, and on the acoustic and optical methods to underwater sampling. I specialize on fisheries acoustics, on acoustic fish stock assessment, on debiasing/simulation techniques of the acoustic measurement, and on scientific software development. My research interests also cover topics of fisheries management, marine bioacoustics, and passive acoustic monitoring systems.

I have participated in fieldwork expeditions in the Atlantic Ocean, Indian Ocean, and Greek waters, and have been involved in several national and international research projects. During 2012–2013, I worked as a Faculty Research Associate at Harbor Branch Oceanographic Institute, Florida Atlantic University (USA), where I focused on passive acoustic monitoring methods for cetaceans.

In March 2019, I received an academic appointment at the Department of Marine Sciences, University of the Aegean, at the faculty rank of Assistant Professor. At the undergraduate level, I teach the modules “Hydroacoustic Technology”, “Special Topics in Bioacoustics & Marine Mammals” and “Fisheries Management”, and participate to the data analysis workshops of the module “Fisheries Biology”. At the graduate level, I coordinate and teach –in cooperation with other faculty members the module “Marine Biological Resources – Fisheries and Aquaculture” and participate to the teaching of the module “Applied Marine Ecology”.

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Education

- 2005–2010 **PhD, Fisheries Acoustics**
University of the Aegean, Department of Marine Sciences, Greece.
Thesis: *Development of an operational system for acoustic detection and tracking of pelagic fish schools using omnidirectional multi-beam sonars.* doi: [10.12681/eadd/22386](https://doi.org/10.12681/eadd/22386)
- 2001–2002 **MSc, Offshore and Ocean Technology**
Cranfield University, School of Industrial and Manufacturing Science, UK.
- 1995–2001 **MEng, Mechanical Engineering**
Aristotle University of Thessaloniki, Department of Mechanical Engineering, Greece.

Professional experience

- 2019–today **Assistant Professor**
University of the Aegean, Department of Marine Sciences, Greece.
- 2015–2018 **Adjunct Lecturer**
University of the Aegean, Department of Marine Sciences, Greece.
- 2012–2013 **Faculty Research Associate**
Harbor Branch Oceanographic Institute at Florida Atlantic University, USA.

Selected publications

Peer-reviewed Journals

- Fuentes Rivera Escalante M, Galanos V, **Trygonis V**, (2025). The underwater noise footprint of bottom trawling in the National Marine Park of Alonnisos, Greece. *Thalassas* 41, 192. doi: [10.1007/s41208-025-00946-9](https://doi.org/10.1007/s41208-025-00946-9)
- Brady B, Hedwig D, **Trygonis V**, Gerstein E, (2020). Classification of Florida manatee (*Trichechus manatus latirostris*) vocalizations. *Journal of the Acoustical Society of America* 147, 1597–1606. doi: [10.1121/10.0000849](https://doi.org/10.1121/10.0000849)
- Brehmer P, Sancho G, **Trygonis V**, Itano D, Dalen J, Fuchs A, Faraj A, Taquet M, (2019). Towards an autonomous pelagic observatory: experiences from monitoring fish communities around drifting FADs. *Thalassas* 35, 177–189. doi: [10.1007/s41208-018-0107-9](https://doi.org/10.1007/s41208-018-0107-9)
- Trygonis V**, Kapelonis Z, (2018). Corrections of fish school area and mean volume backscattering strength by simulation of an omnidirectional multi-beam sonar. *ICES Journal of Marine Science* 75, 1496–1508. doi: [10.1093/icesjms/fsy009](https://doi.org/10.1093/icesjms/fsy009)
- Dimitriadis C, Sini M, **Trygonis V**, Gerovasileiou V, Sourbés L, Koutsoubas D, (2018). Assessment of fish communities in a Mediterranean MPA: can a seasonally enforced no-take area provide effective protection? *Estuarine, Coastal and Shelf Science* 207, 223–231. doi: [10.1016/j.ecss.2018.04.012](https://doi.org/10.1016/j.ecss.2018.04.012)
- Tsirintanis K, Sini M, Doumas O, **Trygonis V**, Katsanevakis S, (2018). Assessment of grazing effects on phytobenthic community structure at shallow rocky reefs: An experimental field study in the North Aegean Sea. *Journal of Experimental Marine Biology and Ecology* 503, 31–40. doi: [10.1016/j.jembe.2018.01.008](https://doi.org/10.1016/j.jembe.2018.01.008)
- Mačić V, Albano PG, Almpanidou V, Claudet J, Corrales X, Essl F, Evagelopoulos A, Giovos I, Jimenez C, Kark S, Marković O, Mazaris AD, Ólafsdóttir GÁ, Panayotova M, Petović S, Rabitsch W, Ramdani M, Rilov G, Tricarico E, Vega Fernández T, Sini M, **Trygonis V**, Katsanevakis S, (2018). Biological invasions in conservation planning: A global systematic review. *Frontiers in Marine Science* 5:178. doi: [10.3389/fmars.2018.00178](https://doi.org/10.3389/fmars.2018.00178)
- Sini M, Katsanevakis S, Koukourouli N, Gerovasileiou V, Dailianis T, Buhl-Mortensen L, Damalas D, Dendrinou P, Dimas X, Frantzis A, Gerakaris V, Giakoumi S, Gonzalez-Mirelis G, Hasiotis T, Issaris Y, Kavadas SG, Koutsogiannopoulos DD, Koutsoubas D, Manoutsoglou E, Markantonatou V, Mazaris AD, Poursanidis D, Papatheodorou G, Salomidi M, Topouzelis K, **Trygonis V**, Vassilopoulou V, Zotou M, (2017). Assembling ecological pieces to reconstruct the conservation puzzle of the Aegean Sea. *Frontiers in Marine Science* 4:347. doi: [10.3389/fmars.2017.00347](https://doi.org/10.3389/fmars.2017.00347)
- Trygonis V**, Georgakarakos S, Dagorn L, Brehmer P, (2016). Spatiotemporal distribution of fish schools around drifting fish aggregating devices. *Fisheries Research* 177, 39–49. doi: [10.1016/j.fishres.2016.01.013](https://doi.org/10.1016/j.fishres.2016.01.013)
- Gerovasileiou V, **Trygonis V**, Sini M, Koutsoubas D, Voultziadou E, (2013). Three dimensional mapping of marine caves using a handheld echosounder. *Marine Ecology Progress Series* 486, 13–22. doi: [10.3354/meps10374](https://doi.org/10.3354/meps10374)
- Trygonis V**, Gerstein E, Moir J, McCulloch S, (2013). Vocalization characteristics of North Atlantic right whale surface active groups in the calving habitat, southeastern United States. *Journal of the Acoustical Society of America* 134, 4518–4531. doi: [10.1121/1.4824682](https://doi.org/10.1121/1.4824682)
- Trygonis V**, Sini M, (2012). photoQuad: A dedicated seabed image processing software, and a comparative error analysis of four photoquadrat methods. *Journal of Experimental Marine Biology and Ecology* 424–425, 99–108. doi: [10.1016/j.jembe.2012.04.018](https://doi.org/10.1016/j.jembe.2012.04.018)
- Trygonis V**, Georgakarakos S, Simmonds EJ, (2009). An operational system for automatic school identification on multibeam sonar echoes. *ICES Journal of Marine Science* 66, 935–949. doi: [10.1093/icesjms/fsp135](https://doi.org/10.1093/icesjms/fsp135)
- Brehmer P, Georgakarakos S, Josse E, **Trygonis V**, Dalen J, (2007). Adaptation of fisheries sonar for monitoring schools of large pelagic fish: Dependence of schooling behaviour on fish finding efficiency. *Aquatic Living Resources* 20, 377–384. doi: [10.1051/alr:2008016](https://doi.org/10.1051/alr:2008016)

Book chapters

- Georgakarakos S, **Trygonis V**, Haralabous J, (2011). Accuracy of acoustic methods in fish stock assessment. In: Kolev N. (ed.), *Sonar Systems*. InTech Publishing, pp. 275–298. doi: [10.5772/18631](https://doi.org/10.5772/18631)
- Tsekouras GE, **Trygonis V**, Rigos A, Chatzipavlis A, Tsolakis D, Velegrakis AF, (2017). Neuro-fuzzy network for modeling the shoreline realignment of the Kamari Beach, Santorini, Greece. In: Boracchi G, Iliadis L, Jayne C, Likas A, (eds), *Engineering Applications of Neural Networks. Communications in Computer and Information Science*, Vol. 744. Springer, Cham, pp. 229–241. doi: [10.1007/978-3-319-65172-9_20](https://doi.org/10.1007/978-3-319-65172-9_20)

Other publications

- Galanos V, **Trygonis V**, Katsanevakis S, (2025). A low-cost custom-built hydrophone toolkit for underwater recordings. In: Smollny M, Mackintosh AL, Apazoglou E, Costello MJ, Addamo AM (Eds). The book of Abstracts - 58th European Marine Biology Symposium (EMBS), Bodø, Norway. EuroMarine, Paris, 101 pp. doi: [10.5281/zenodo.16753701](https://doi.org/10.5281/zenodo.16753701)
- Vlachaki A, Chamilaki M, **Trygonis V**, (2022). Use of AIS data to assess bottom trawl fishing effort in international waters of the Aegean Sea. Proceedings of the Marine and Inland Waters Research Symposium. September 16-19, 2022, Porto Heli, Greece, pp. 243-246.
- Galanos V, **Trygonis V**, (2021). Construction of low-cost hydrophones using off-the-shelf components. Proceedings of the 4th International Congress on Applied Ichthyology, Oceanography & Aquatic Environment (HydroMediT). November 4-6, 2021, Mytilene, Greece, pp. 547-548.
- Trygonis V**, Kapelonis Z, Koukourouli N, (2021). Assessment of gilthead sea bream (*Sparus aurata*) biomass in aquaculture cages using split-beam echosounders. Proceedings of the 4th International Congress on Applied Ichthyology, Oceanography & Aquatic Environment (HydroMediT). November 4-6, 2021, Mytilene, Greece, pp. 148-151.
- Tourgeli Provata M, Boisseau O, Frantzis A, Alexiadou V, **Trygonis V**, (2021). The acoustic repertoire and the characteristics of dolphin whistles in Greece. Proceedings of the 4th International Congress on Applied Ichthyology, Oceanography & Aquatic Environment (HydroMediT). November 4-6, 2021, Mytilene, Greece, pp. 239-243.
- Cai LL, Savva I, Kleitou P, Alexandrou S, Sini M, **Trygonis V**, Gerovasileiou V, Ioannou Y, Nicolaou H, Markou M, Koutsoubas D, Kletou D, (2021). First inventory of sea caves around Cyprus. Proceedings of the 4th International Congress on Applied Ichthyology, Oceanography & Aquatic Environment (HydroMediT). November 4-6, 2021, Mytilene, Greece, pp. 576-577.
- Kyriakou K, Katsanevakis S, **Trygonis V**, (2019). Quantitative analysis of the acoustic repertoire of free-ranging bottlenose dolphins (*Tursiops truncatus*) in N Aegean Greece, recorded in the vicinity of aquaculture net pens. Proceedings of the 14th International Congress of the Zoogeography and Ecology of Greece and Adjacent Regions (ICZEGAR). June 17-30, 2019, Thessaloniki, Greece, pp. 96.
- Kefalas G, **Trygonis V**, Kokkoris G, Batjakas IE, (2018). Behaviour changes of the seabass *Dicentrarchus Labrax* in sound stimuli. Proceedings of the 3rd International Congress on Applied Ichthyology & Aquatic Environment (HydroMediT). November 8-11, 2018, Volos, Greece, pp. 685-686.
- Gerstein E, **Trygonis V**, Moir J, (2017). Vocal behavior and ontogeny of Northern right whales in the southeast critical habitat. Journal of the Acoustical Society of America 141, 4002. doi: [10.1121/1.4989179](https://doi.org/10.1121/1.4989179)
- Trygonis V**, Kapelonis Z, Georgakarakos S, (2015). Simulation of multi-beam sonar fish school echotraces for area and density corrections. Proceedings of the 11th Panhellenic Symposium of Oceanography and Fisheries. May 13-17, 2015, Mytilene, Greece, pp. 197-200.
- Kapelonis Z, **Trygonis V**, Spyridakis N, Georgakarakos S, (2015). Comparison of multi-beam fish school echotrace descriptors using concurrent recordings of analog video and raw acoustic data. Proceedings of the 11th Panhellenic Symposium of Oceanography and Fisheries. May 13-17, 2015, Mytilene, Greece, pp. 201-204.
- Trygonis V**, Diogou N, Andreadis O, Kapota S, Dimitriadis C, Koutsoubas D, Katsanevakis S, (2015). Marine mammal visual and acoustic surveys in southern Zakynthos, Ionian Sea. Proceedings of the 1st International Symposium Marine Protected Areas in Greece and the Mediterranean: 'Designing for the Future by Applying Lessons Learnt from the Past'. December 4-6, 2015, Zakynthos, Greece, pp. 48-49.
- Gerstein E, **Trygonis V**, McCulloch S, Moir J, Kraus S, (2014). Female North Atlantic right whales produce gunshot sounds. Journal of the Acoustical Society of America 135, 2369. doi: [10.1121/1.4877814](https://doi.org/10.1121/1.4877814)
- Gerstein E, **Trygonis V**, Moir J, McCulloch S, (2014). Acoustic characterization and vocal behavior of North Atlantic right whale surface active groups. Journal of the Acoustical Society of America 135, 2334. doi: [10.1121/1.4877658](https://doi.org/10.1121/1.4877658)
- Brehmer P, Sancho G, Josse E, Taquet M, Georgakarakos S, Itano D, Moreno G, Palud P, **Trygonis V**, Aumeeruddy R, Girard C, Dalen J, Dagorn L, Gerlotto F, (2009). Monitoring fish communities at drifting FADs: an autonomous system for data collection in an ecosystems approach. In: Report of the ICES Working Group on Fisheries Acoustics, Science and Technology (WGFAST). ICES CM 2009/FTC:01, 28 pp.
- Trygonis V**, Georgakarakos S, (2007). Investigation of school speed measurement errors by simulation. In: Report of the ICES Working Group on Fisheries Acoustics, Science and Technology (WGFAST), 23-27 April 2007, Dublin Ireland. ICES CM 2007/FTC:09, 8 pp.