Frank Melzner

List of Publications by Year
in descending order

78 papers	6,419 citations	87888 38 h-index	69250 77 g-index
81 all docs	81 docs citations	81 times ranked	4913 citing authors

#	Article	IF	Citations
1	Physiological basis for high CO₂ tolerance in marine ectothermic animals: pre-adaptation through lifestyle and ontogeny?. Biogeosciences, 2009, 6, 2313-2331.	3.3	544
2	Future ocean acidification will be amplified by hypoxia in coastal habitats. Marine Biology, 2013, 160, 1875-1888.	1.5	423
3	Food availability outweighs ocean acidification effects in juvenile <i><scp>M</scp>ytilus edulis</i>: laboratory and field experiments. Global Change Biology, 2013, 19, 1017-1027.	9.5	379
4	The Baltic Sea as a time machine for the future coastal ocean. Science Advances, 2018, 4, eaar8195.	10.3	339
5	Food Supply and Seawater pCO2 Impact Calcification and Internal Shell Dissolution in the Blue Mussel Mytilus edulis. PLoS ONE, 2011, 6, e24223.	2.5	319
6	Calcifying invertebrates succeed in a naturally CO₂-rich coastal habitat but are threatened by high levels of future acidification. Biogeosciences, 2010, 7, 3879-3891.	3.3	301
7	CO2 induced seawater acidification impacts sea urchin larval development I: Elevated metabolic rates decrease scope for growth and induce developmental delay. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2011, 160, 331-340.	1.8	275
8	Long-term and trans-life-cycle effects of exposure to ocean acidification in the green sea urchin Strongylocentrotus droebachiensis. Marine Biology, 2013, 160, 1835-1843.	1.5	266
9	Moderate seawater acidification does not elicit long-term metabolic depression in the blue mussel Mytilus edulis. Marine Biology, 2010, 157, 2667-2676.	1.5	257
10	Acidified seawater impacts sea urchin larvae pH regulatory systems relevant for calcification. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 18192-18197.	7.1	217
11	Resource allocation and extracellular acidâ€"base status in the sea urchin Strongylocentrotus droebachiensis in response to CO2 induced seawater acidification. Aquatic Toxicology, 2012, 110-111, 194-207.	4.0	172
12	Swimming performance in Atlantic Cod (Gadus morhua) following long-term (4â€"12 months) acclimation to elevated seawater PCO2. Aquatic Toxicology, 2009, 92, 30-37.	4.0	136
13	Impacts of seawater acidification on mantle gene expression patterns of the Baltic Sea blue mussel: implications for shell formation and energy metabolism. Marine Biology, 2013, 160, 1845-1861.	1.5	134
14	Massively Parallel RNA Sequencing Identifies a Complex Immune Gene Repertoire in the lophotrochozoan Mytilus edulis. PLoS ONE, 2012, 7, e33091.	2.5	133
15	Digestion in sea urchin larvae impaired under ocean acidification. Nature Climate Change, 2013, 3, 1044-1049.	18.8	126
16	CO2 induced seawater acidification impacts sea urchin larval development II: Gene expression patterns in pluteus larvae. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2011, 160, 320-330.	1.8	123
17	Naturally acidified habitat selects for ocean acidificationâ€"tolerant mussels. Science Advances, 2017, 3, e1602411.	10.3	115
18	Growth and calcification in the cephalopod Sepia officinalis under elevated seawater pCO2. Marine Ecology - Progress Series, 2008, 373, 303-309.	1.9	113

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19	Acidâ€“base regulatory ability of the cephalopod (Sepia officinalis) in response to environmental hypercapnia. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2010, 180, 323-335.	1.5	102
20	Sour times: seawater acidification effects on growth, feeding behaviour and acidâ€“base status of Asterias rubens and Carcinus maenas. Marine Ecology - Progress Series, 2012, 459, 85-98.	1.9	94
21	Impact of seawater carbonate chemistry on the calcification of marine bivalves. Biogeosciences, 2015, 12, 4209-4220.	3.3	93
22	Cuttlebone calcification increases during exposure to elevated seawater pCO2 in the cephalopod Sepia officinalis. Marine Biology, 2010, 157, 1653-1663.	1.5	89
23	Mussel larvae modify calcifying fluid carbonate chemistry to promote calcification. Nature Communications, 2017, 8, 1709.	12.8	78
24	Ocean Acidification and Coastal Marine Invertebrates: Tracking CO₂Effects from Seawater to the Cell. Annual Review of Marine Science, 2020, 12, 499-523.	11.6	76
25	CO2-driven seawater acidification differentially affects development and molecular plasticity along life history of fish (Oryzias latipes). Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2013, 165, 119-130.	1.8	71
26	Biophysical and Population Genetic Models Predict the Presence of â€œPhantomâ€• Stepping Stones Connecting Mid-Atlantic Ridge Vent Ecosystems. Current Biology, 2016, 26, 2257-2267.	3.9	69
27	Abiotic conditions in cephalopod (Sepia officinalis) eggs: embryonic development at low pH and high pCO2. Marine Biology, 2009, 156, 515-519.	1.5	67
28	Elevated seawater Pco2 differentially affects branchial acid-base transporters over the course of development in the cephalopod Sepia officinalis. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2011, 300, R1100-R1114.	1.8	67
29	Deciphering mollusc shell production: the roles of genetic mechanisms through to ecology, aquaculture and biomimetics. Biological Reviews, 2020, 95, 1812-1837.	10.4	63
30	Combining hydrodynamic modelling with genetics: can passive larval drift shape the genetic structure of Baltic <i>Mytilus</i> populations?. Molecular Ecology, 2017, 26, 2765-2782.	3.9	56
31	Conditions of <i>Mytilus edulis</i> extracellular body fluids and shell composition in a pHâ€treatment experiment: Acidâ€base status, trace elements and <i>Î´</i>¹¹B. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	48
32	High Calcification Costs Limit Mussel Growth at Low Salinity. Frontiers in Marine Science, 2018, 5, .	2.5	48
33	Role of blood-oxygen transport in thermal tolerance of the cuttlefish, Sepia officinalis. Integrative and Comparative Biology, 2007, 47, 645-655.	2.0	46
34	Effects of elevated seawater p CO2 on gene expression patterns in the gills of the green crab, Carcinus maenas. BMC Genomics, 2011, 12, 488.	2.8	46
35	A shell regeneration assay to identify biomineralization candidate genes in mytilid mussels. Marine Genomics, 2016, 27, 57-67.	1.1	46
36	Critical temperatures in the cephalopod Sepia officinalisinvestigated using in vivo31P NMR spectroscopy. Journal of Experimental Biology, 2006, 209, 891-906.	1.7	45

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37	Ocean acidification and temperature rise: effects on calcification during early development of the cuttlefish Sepia officinalis. Marine Biology, 2013, 160, 2007-2022.	1.5	45
38	Maintenance of coelomic fluid pH in sea urchins exposed to elevated CO2: the role of body cavity epithelia and stereom dissolution. Marine Biology, 2013, 160, 2631-2645.	1.5	38
39	Temperature-dependent oxygen extraction from the ventilatory current and the costs of ventilation in the cephalopod Sepia officinalis. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2006, 176, 607-621.	1.5	37
40	Multiple Loci Are Associated with Dilated Cardiomyopathy in Irish Wolfhounds. PLoS ONE, 2012, 7, e36691.	2.5	37
41	Ammonium excretion and oxygen respiration of tropical copepods and euphausiids exposed to oxygen minimum zone conditions. Biogeosciences, 2016, 13, 2241-2255.	3.3	37
42	Expression of calcificationâ€related ion transporters during blue mussel larval development. Ecology and Evolution, 2019, 9, 7157-7172.	1.9	37
43	Localization of ion-regulatory epithelia in embryos and hatchlings of two cephalopods. Cell and Tissue Research, 2010, 339, 571-583.	2.9	32
44	Juvenile sea stars exposed to acidification decrease feeding and growth with no acclimation potential. Marine Ecology - Progress Series, 2014, 509, 227-239.	1.9	30
45	Calcium mobilisation following shell damage in the Pacific oyster, Crassostrea gigas. Marine Genomics, 2016, 27, 75-83.	1.1	28
46	New insights into ion regulation of cephalopod molluscs: a role of epidermal ionocytes in acid-base regulation during embryogenesis. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2011, 301, R1700-R1709.	1.8	27
47	Water column biogeochemistry of oxygen minimum zones in the eastern tropical North Atlantic and eastern tropical South Pacific oceans. Biogeosciences, 2016, 13, 3585-3606.	3.3	27
48	Mussels with Meat: Bivalve Tissue-Shell Radiocarbon Age Differences and Archaeological Implications. Radiocarbon, 2012, 54, 953-965.	1.8	24
49	The squat lobster Pleuroncodes monodon tolerates anoxic â€œdead zoneâ€•conditions off Peru. Marine Biology, 2015, 162, 1913-1921.	1.5	24
50	Using the critical salinity (S crit) concept to predict invasion potential of the anemone Diadumene lineata in the Baltic Sea. Marine Biology, 2016, 163, 1.	1.5	24
51	Calcification in a marginal sea â€“ influence of seawater [Ca²⁺] and carbonate chemistry on bivalve shell formation. Biogeosciences, 2018, 15, 1469-1482.	3.3	24
52	<i>In vivo</i> characterization of bivalve larval shells: a confocal Raman microscopy study. Journal of the Royal Society Interface, 2018, 15, 20170723.	3.4	22
53	Contribution of changes in opal productivity and nutrient distribution in the coastal upwelling systems to Late Pliocene/Early Pleistocene climate cooling. Climate of the Past, 2012, 8, 1435-1445.	3.4	21
54	Influence of Temperature, Hypercapnia, and Development on the Relative Expression of Different Hemocyanin Isoforms in the Common Cuttlefish <i>Sepia officinalis</i>. Journal of Experimental Zoology, 2012, 317, 511-523.	1.2	21

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55	Simulated leakage of high pCO2 water negatively impacts bivalve dominated infaunal communities from the Western Baltic Sea. Scientific Reports, 2016, 6, 31447.	3.3	21
56	Elevated pCO2 drives lower growth and yet increased calcification in the early life history of the cuttlefish Sepia officinalis (Mollusca: Cephalopoda). ICES Journal of Marine Science, 2016, 73, 970-980.	2.5	21
57	Intra-population variability of ocean acidification impacts on the physiology of Baltic blue mussels (Mytilus edulis): integrating tissue and organism response. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2017, 187, 529-543.	1.5	21
58	Allometry of thermal limitation in the cephalopod Sepia officinalis. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2007, 146, 149-154.	1.8	20
59	Estimating recent growth in the cuttlefish Sepia officinalis: are nucleic acid-based indicators for growth and condition the method of choice?. Journal of Experimental Marine Biology and Ecology, 2005, 317, 37-51.	1.5	16
60	Salinity dependence of recruitment success of the sea star Asterias rubens in the brackish western Baltic Sea. Helgoland Marine Research, 2015, 69, 169-175.	1.3	16
61	Proteomic investigation of the blue mussel larval shell organic matrix. Journal of Structural Biology, 2019, 208, 107385.	2.8	16
62	Establishing Functional Relationships between Abiotic Environment, Macrophyte Coverage, Resource Gradients and the Distribution of Mytilus trossulus in a Brackish Non-Tidal Environment. PLoS ONE, 2015, 10, e0136949.	2.5	16
63	Cyclic thermal fluctuations can be burden or relief for an ectotherm depending on fluctuationsâ€™ average and amplitude. Functional Ecology, 2021, 35, 2483-2496.	3.6	15
64	Transâ€life cycle acclimation to experimental ocean acidification affects gastric pH homeostasis and larval recruitment in the sea star <i>Asterias rubens</i>. Acta Physiologica, 2018, 224, e13075.	3.8	14
65	Transcriptomic analysis of shell repair and biomineralization in the blue mussel, Mytilus edulis. BMC Genomics, 2021, 22, 437.	2.8	14
66	Intracellular pH regulation in mantle epithelial cells of the Pacific oyster, Crassostrea gigas. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2020, 190, 691-700.	1.5	12
67	Simultaneous recording of filtration and respiration in marine organisms in response to shortâ€term environmental variability. Limnology and Oceanography: Methods, 2021, 19, 196-209.	2.0	12
68	Comparative de novo assembly and annotation of mantle tissue transcriptomes from the Mytilus edulis species complex (M. edulis, M. galloprovincialis, M. trossulus). Marine Genomics, 2020, 51, 100700.	1.1	11
69	Nutrient utilisation and weathering inputs in the Peruvian upwelling region since the Little Ice Age. Climate of the Past, 2015, 11, 187-202.	3.4	10
70	Decoupling salinity and carbonate chemistry: low calcium ion concentration rather than salinity limits calcification in Baltic Sea mussels. Biogeosciences, 2021, 18, 2573-2590.	3.3	10
71	Coordination between ventilatory pressure oscillations and venous return in the cephalopod Sepia officinalis under control conditions, spontaneous exercise and recovery. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2006, 177, 1-17.	1.5	9
72	Ocean winter warming induced starvation of predator and prey. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20200970.	2.6	9

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73	Capacity for Cellular Osmoregulation Defines Critical Salinity of Marine Invertebrates at Low Salinity. Frontiers in Marine Science, 0, 9, .	2.5	9
74	Salinity Driven Selection and Local Adaptation in Baltic Sea Mytilid Mussels. Frontiers in Marine Science, 2021, 8, .	2.5	8
75	A sea urchin Na+K+2Clâ^' cotransporter is involved in the maintenance of calcification-relevant cytoplasmic cords in Strongylocentrotus droebachiensis larvae. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2015, 187, 184-192.	1.8	6
76	Skeletal integrity of a marine keystone predator (Asterias rubens) threatened by ocean acidification. Journal of Experimental Marine Biology and Ecology, 2020, 526, 151335.	1.5	5
77	The silent loss of cell physiology hampers marine biosciences. PLoS Biology, 2022, 20, e3001641.	5.6	5
78	Symposium on â€œClimate Change and Molluscan Ecophysiologyâ€•at the 79thAnnual Meeting of the American Malacological Society. American Malacological Bulletin, 2015, 33, 121-126.	0.2	0