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Ocean Systems Supplementary Material

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This chapter on-line supplementary material should be cited as:

Pörtner, H.-O., D.M. Karl, P.W. Boyd, W.W.L. Cheung, S.E. Lluch-Cota, Y. Nojiri, D.N. Schmidt, and P.O. Zavialov, 2014: Ocean systems – supplementary material. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Available from www.ipcc-wg2.gov/AR5 and www.ipcc.ch.

References for Table 6-3

- Agegian, C.R., 1985: *The biogeochemical ecology of Porolithon gardineri (Foslie)*. PhD thesis, University of Hawaii, 178 pp.
- Agostini, S., H. Fujimura, T. Higuchi, I. Yuyama, B.E. Casareto, Y. Suzuki and Y. Nakano, 2013: The effects of thermal and high-CO₂ stresses on the metabolism and surrounding microenvironment of the coral *Galaxea fascicularis*. *Comptes Rendus Biologies*, **336(8)**, 384-391.
- Albright, R. and C. Langdon, 2011: Ocean acidification impacts multiple early life history processes of the Caribbean coral *Porites astreoides*. *Global Change Biology*, **17(7)**, 2478-2487.
- Albright, R. and B. Mason, 2013: Projected near-future levels of temperature and pCO₂ reduce coral fertilization success. *PLoS ONE*, **8(2)**, e56468.
- Albright, R., B. Mason, M. Miller and C. Langdon, 2010: Ocean acidification compromises recruitment success of the threatened Caribbean coral *Acropora palmata*. *Proceedings of the National Academy of Sciences of the United States of America*, **107(47)**, 20400-20404.
- Albright, R., C. Bland, P. Gillette, J.E. Serafy, C. Langdon and T.R. Capo, 2012: Juvenile growth of the tropical sea urchin *Lytechinus variegatus* exposed to near-future ocean acidification scenarios. *Journal of Experimental Marine Biology and Ecology*, **426-427**, 12-17.
- Aldridge, D., C.J. Beer and D.A. Purdie, 2012: Calcification in the planktonic foraminifera *Globigerina bulloides* linked to phosphate concentrations in surface waters of the North Atlantic Ocean. *Biogeosciences*, **9(5)**, 1725-1739.
- Alexandre, A., J. Silva, P. Buaquet, M. Björk and R. Santos, 2012: Effects of CO₂ enrichment on photosynthesis, growth, and nitrogen metabolism of the seagrass *Zostera noltii*. *Ecology and Evolution*, **2(10)**, 2625-2635.
- Allan, B.J.M., P. Domenici, M.I. McCormick, S.-A. Watson and P.L. Munday, 2013: Elevated CO₂ affects predator-prey interactions through altered performance. *PLoS ONE*, **8(3)**, e58520, doi:10.1371/journal.pone.0058520.
- Anlauf, H., L. D'Croze and A. O'Dea, 2011: A corrosive concoction: The combined effects of ocean warming and acidification on the early growth of a stony coral are multiplicative. *Journal of Experimental Marine Biology and Ecology*, **397(1)**, 13-20.
- Anthony, K.R., D.I. Kline, G. Diaz-Pulido, S. Dove and O. Hoegh-Guldberg, 2008: Ocean acidification causes bleaching and productivity loss in coral reef builders. *Proceedings of the National Academy of Sciences of the United States of America*, **105(45)**, 17442-17446.
- Anthony, K.R.N., G. Diaz-Pulido, N. Verlinden, B. Tilbrook and A.J. Andersson, 2013: Benthic buffers and boosters of ocean acidification on coral reefs. *Biogeosciences*, **10(7)**, 4897-4909.
- Anthony, K.R.N., J.A. Maynard, G. Diaz-Pulido, P.J. Mumby, P.A. Marshall, L. Cao and O. Hoegh-Guldberg, 2011: Ocean acidification and warming will lower coral reef resilience. *Global Change Biology*, **17(5)**, 1798-1808.
- Appelhaus, Y.S., J. Thomsen, C. Pansch, F. Melzner and M. Wahl, 2012: Sour times: seawater acidification effects on growth, feeding behaviour and acid-base status of *Asterias rubens* and *Carcinus maenas*. *Marine Ecology Progress Series*, **459**, 85-98.
- Arnold, H.E., P. Kerrison and M. Steinke, 2013: Interacting effects of ocean acidification and warming on growth and DMS-production in the haptophyte coccolithophore *Emiliania huxleyi*. *Global Change Biology*, **19(4)**, 1007-1016.
- Arnold, T., C. Mealey, H. Leahey, A.W. Miller, J.M. Hall-Spencer, M. Milazzo and K. Maers, 2012: Ocean acidification and the loss of phenolic substances in marine plants. *PLoS ONE*, **7(4)**, e35107, doi:10.1371/journal.pone.0035107.
- Asnaghi, V., M. Chiantore, L. Mangialajo, F. Gazeau, P. Francour, S. Alliouane and J.-P. Gattuso, 2013: Cascading effects of ocean acidification in a rocky subtidal community. *PLoS ONE*, **8(4)**, e61978, doi: 10.1371/journal.pone.0061978.
- Bach, L.T., U. Riebesell and K. Georg Schulz, 2011: Distinguishing between the effects of ocean acidification and ocean carbonation in the coccolithophore *Emiliania huxleyi*. *Limnology and Oceanography*, **56(6)**, 2040-2050.
- Bach, L.T., C. Bauke, K.J.S. Meier, U. Riebesell and K.G. Schulz, 2012: Influence of changing carbonate chemistry on morphology and weight of coccoliths formed by *Emiliania huxleyi*. *Biogeosciences*, **9(8)**, 3449-3463.
- Barcelos e Ramos, J., H. Biswas, K.G. Schulz, J. LaRoche and U. Riebesell, 2007: Effect of rising atmospheric carbon dioxide on the marine nitrogen fixer *Trichodesmium*. *Global Biogeochemical Cycles*, **21(2)**, GB2028, doi:10.1029/2006GB002898.
- Barros, P., P. Sobral, P. Range, L. Chicharo and D. Matias, 2013: Effects of sea-water acidification on fertilization and larval development of the oyster *Crassostrea gigas*. *Journal of Experimental Marine Biology and Ecology*, **440**, 200-206.
- Basalote, M.D., A. Rodríguez-Romero, J. Blasco, A. DelValls and I. Riba, 2012: Lethal effects on different marine organisms, associated with sediment-seawater acidification deriving from CO₂ leakage. *Environmental Science and Pollution Research*, **19(7)**, 2550-2560.
- Batten, S.D. and R.N. Bamber, 1996: The effects of acidified seawater on the polychaete *Nereis virens* Sars, 1835. *Marine Pollution Bulletin*, **32(3)**, 283-287.
- Baumann, H., S.C. Talmage and C.J. Gobler, 2012: Reduced early life growth and survival in a fish in direct response to increased carbon dioxide. *Nature Climate Change*, **2(1)**, 38-41.
- Bechmann, R.K., I.C. Taban, S. Westerlund, B.F. Godal, M. Arnberg, S. Vingen, A. Ingvarsdottir and T. Baussant, 2011: Effects of ocean acidification on early life stages of shrimp (*Pandalus borealis*) and mussel (*Mytilus edulis*). *Journal of Toxicology and Environmental Health, Part A*, **74(7-9)**, 424-438.
- Bellerby, R.G.J., K.G. Schulz, U. Riebesell, C. Neill, G. Nondal, E. Heegaard, T. Johannessen and K.R. Brown, 2008: Marine ecosystem community carbon and nutrient uptake stoichiometry under varying ocean acidification during the PeECE III experiment. *Biogeosciences*, **5(6)**, 1517-1527.
- Berge, J.A., B. Bjerkeng, O. Pettersen, M.T. Schaanning and S. Øxnevad, 2006: Effects of increased sea water concentrations of CO₂ on growth of the bivalve *Mytilus edulis* L. *Chemosphere*, **62(4)**, 681-687.
- Bibby, R., S. Widdicombe, H. Parry, J. Spicer and R. Pipe, 2008: Effects of ocean acidification on the immune response of the blue mussel *Mytilus edulis*. *Aquatic Biology*, **2(1)**, 67-74.
- Bignami, S., S. Sponaugle and R.K. Cowen, 2013: Response to ocean acidification in larvae of a large tropical marine fish, *Rachycentron canadum*. *Global Change Biology*, **19(4)**, 996-1006.
- Bignami, S., I.C. Enochs, D.P. Manzello, S. Sponaugle and R.K. Cowen, 2013: Ocean acidification alters the otoliths of a pantropical fish species with implications for sensory function. *Proceedings of the National Academy of Sciences of the United States of America*, **110(18)**, 7366-7370.
- Boelen, P., W.H. van de Poll, H.J. van der Strate, I.A. Neven, J. Beardall and A.G.J. Buma, 2011: Neither elevated nor reduced CO₂ affects the photophysiological performance of the marine Antarctic diatom *Chaetoceros brevis*. *Journal of Experimental Marine Biology and Ecology*, **406(1-2)**, 38-45.
- Borchard, C. and A. Engel, 2012: Organic matter exudation by *Emiliania huxleyi* under simulated future ocean conditions. *Biogeosciences*, **9(8)**, 3405-3423.
- Borowitzka, M.A. and A.W.D. Larkum, 1976: Calcification in the green alga *Halimeda*. 3. The sources of inorganic carbon for photosynthesis and calcification and a model of the mechanism of calcification. *Journal of Experimental Botany*, **27**, 879-893.
- Bradassi, F., F. Cumani, G. Bressan and S. Dupont, 2013: Early reproductive stages in the crustose coralline alga *Phymatolithon lenormandii* are strongly affected by mild ocean acidification. *Marine Biology*, **160(8)**, 2261-2269.
- Brading, P., M.E. Warner, P. Davey, D.J. Smith, E.P. Achterberg and D.J. Suggett, 2011: Differential effects of ocean acidification on growth and photosynthesis among phylogenies of *Symbiodinium* (Dinophyceae). *Limnology and Oceanography*, **56(3)**, 927-938.
- Bramanti, L., J. Movilla, M. Guron, E. Calvo, A. Gori, C. Dominguez-Carrió, J. Grinyó, A. Lopez-Sanz, A. Martinez-Quintana, C. Pelejero, P. Ziveri and S. Rossi, 2013: Detrimental effects of ocean acidification on the economically important Mediterranean red coral (*Corallium rubrum*). *Global Change Biology*, **19(6)**, 1897-1908.
- Büdenbender, J., U. Riebesell and A. Form, 2011: Calcification of the Arctic coralline red algae *Lithothamnion glaciale* in response to elevated CO₂. *Marine Ecology Progress Series*, **441**, 79-87.
- Buitenhuis, E.T., H.J.W. de Baar and M.J.W. Veldhuis, 1999: Photosynthesis and calcification by *Emiliania huxleyi* (Prymnesiophyceae) as a function of inorganic carbon species. *Journal of Phycology*, **35(5)**, 949-959.
- Burkhardt, S. and U. Riebesell, 1997: CO₂ availability affects elemental composition (C:N:P) of the marine diatom *Skeletonema costatum*. *Marine Ecology Progress Series*, **155**, 67-76.
- Burkhardt, S., I. Zondervan and U. Riebesell, 1999: Effect of CO₂ concentration on C:N:P ratio in marine phytoplankton: a species comparison. *Limnology and Oceanography*, **44(3)**, 683-690.
- Burnell, O.W., B.D. Russell, A.D. Irving and S.D. Connell, 2013: Eutrophication offsets increased sea urchin grazing on seagrass caused by ocean warming and acidification. *Marine Ecology Progress Series*, **485**, 37-46.
- Byrne, M., N.A. Soars, M.A. Ho, E. Wong, D. McElroy, P. Selvakumaraswamy, S.A. Dworjanyan and A.R. Davis, 2010: Fertilization in a suite of coastal marine

- invertebrates from SE Australia is robust to near-future ocean warming and acidification. *Marine Biology*, **157**(9), 2061-2069.
- Caldwell**, G.S., S. Fitzner, C.S. Gillespie, G. Pickavance, E. Turnbull and M.G. Bentley, 2011: Ocean acidification takes sperm back in time. *Invertebrate Reproduction and Development*, **55**(4), 217-221.
- Campbell**, J.E. and J.W. Fourqurean, 2013: Effects of in situ CO₂ enrichment on the structural and chemical characteristics of the seagrass *Thalassia testudinum*. *Marine Biology*, **160**(6), 1465-1475.
- Carter**, H.A., L. Ceballos-Osuna, N.A. Miller and J.H. Stillman, 2013: Impact of ocean acidification on metabolism and energetics during early life stages of the intertidal porcelain crab *Petrolisthes cinctipes*. *Journal of Experimental Biology*, **216**(8), 1412-1422.
- Catarino**, A., C. Ridder, M. Gonzalez, P. Gallardo and P. Dubois, 2012: Sea urchin *Arbacia dufresnei* (Blainville 1825) larvae response to ocean acidification. *Polar Biology*, **35**(3), 455-461.
- Ceballos-Osuna**, L., H.A. Carter, N.A. Miller and J.H. Stillman, 2013: Effects of ocean acidification on early life-history stages of the intertidal porcelain crab *Petrolisthes cinctipes*. *Journal of Experimental Biology*, **216**(8), 1405-1411.
- Cerrano**, C., U. Cardini, S. Bianchelli, C. Corinaldesi, A. Pusceddu and R. Danovaro, 2013: Red coral extinction risk enhanced by ocean acidification. *Scientific Reports*, **3**, Article number: 1457.
- Chan**, K.Y.K., D. Grünbaum and M.J. O'Donnell, 2011: Effects of ocean-acidification-induced morphological changes on larval swimming and feeding. *Journal of Experimental Biology*, **214**(22), 3857-3867.
- Chan**, K.Y.K., D. Grünbaum, M. Arnberg, M. Thorndyke and S.T. Dupont, 2013: Ocean acidification induces budding in larval sea urchins. *Marine Biology*, **160**(8), 2129-2135.
- Chan**, V.B.S., C. Li, A.C. Lane, Y. Wang, X. Lu, K. Shih, T. Zhang and V. Thiyagarajan, 2012: CO₂-driven ocean acidification alters and weakens integrity of the calcareous tubes produced by the serpulid tubeworm, *Hydroides elegans*. *PLoS ONE*, **7**(8), e42718, doi:10.1371/journal.pone.0042718.
- Checkley Jr**, D.M., A.G. Dickson, M. Takahashi, J.A. Radich, N. Eisenkolb and R. Asch, 2009: Elevated CO₂ enhances otolith growth in young fish. *Science*, **324**(5935), 1683.
- Chen**, P.-H., H.-L. Liu, Y.-J. Chen, Y.-H. Cheng, W.-L. Lin, C.-H. Yeh and C.-H. Chang, 2012: Enhancing CO₂ bio-mitigation by genetic engineering of cyanobacteria. *Energy and Environmental Science*, **5**(8), 8318-8327.
- Christensen**, A.B., H.D. Nguyen and M. Byrne, 2011: Thermotolerance and the effects of hypercapnia on the metabolic rate of the ophiuroid *Ophionereis schayeri*: Inferences for survivorship in a changing ocean. *Journal of Experimental Marine Biology and Ecology*, **403**(1-2), 31-38.
- Chua**, C.M., W. Leggat, A. Moya and A.H. Baird, 2013: Temperature affects the early life history stages of corals more than near future ocean acidification. *Marine Ecology Progress Series*, **475**, 85-92.
- Chua**, C.M., W. Leggat, A. Moya and A.H. Baird, 2013: Near-future reductions in pH will have no consistent ecological effects on the early life-history stages of reef corals. *Marine Ecology Progress Series*, **486**, 143-151.
- Cigliano**, M., M.C. Gambi, R. Rodolfo-Metalpa, F.P. Patti and J.M. Hall-Spencer, 2010: Effects of ocean acidification on invertebrate settlement at volcanic CO₂ vents. *Marine Biology*, **157**(11), 2489-2502.
- Clark**, D., M. Lamare and M. Barker, 2009: Response of sea urchin pluteus larvae (Echinodermata: Echinoidea) to reduced seawater pH: a comparison among a tropical, temperate, and a polar species. *Marine Biology*, **156**(6), 1125-1137.
- Cohen**, A.L., D.C. McCorkle, S. de Putron, G.A. Gaetani and K.A. Rose, 2009: Morphological and compositional changes in the skeletons of new coral recruits reared in acidified seawater: Insights into the biomineralization response to ocean acidification. *Geochemistry, Geophysics, Geosystems*, **10**(7), Q07005, doi:10.1029/2009GC002411.
- Collard**, M., A.I. Catarino, S. Bonnet, P. Flammang and P. Dubois, 2013: Effects of CO₂-induced ocean acidification on physiological and mechanical properties of the starfish *Asterias rubens*. *Journal of Experimental Marine Biology and Ecology*, **446**, 355-362.
- Comeau**, S., R.C. Carpenter and P.J. Edmunds, 2013: Effects of feeding and light intensity on the response of the coral *Porites rus* to ocean acidification. *Marine Biology*, **160**(5), 1127-1134.
- Comeau**, S., G. Gorsky, S. Alliouane and J.-P. Gattuso, 2010: Larvae of the pteropod *Cavolinia inflexa* exposed to aragonite undersaturation are viable but shell-less. *Marine Biology*, **157**(10), 2341-2345.
- Comeau**, S., R. Jeffree, J.-L. Teysse and J.-P. Gattuso, 2010: Response of the Arctic pteropod *Limacina helicina* to projected future environmental conditions. *PLoS ONE*, **5**(6), e11362, doi: 10.1371/journal.pone.0011362.
- Comeau**, S., P.J. Edmunds, N.B. Spindel and R.C. Carpenter, 2013: The responses of eight coral reef calcifiers to increasing partial pressure of CO₂ do not exhibit a tipping point. *Limnology and Oceanography*, **58**(1), 388-398.
- Connell**, S.D. and B.D. Russell, 2010: The direct effects of increasing CO₂ and temperature on non-calcifying organisms: increasing the potential for phase shifts in kelp forests. *Proceedings of the Royal Society B: Biological Sciences*, **277**(1686), 1409-1415.
- Cornwall**, C.E., C.D. Hepburn, D. Pritchard, K.I. Currie, C.M. McGraw, K.A. Hunter and C.L. Hurd, 2012: Carbon-use strategies in macroalgae: differential responses to lowered pH and implications for ocean acidification. *Journal of Phycology*, **48**(1), 137-144.
- Courtney**, T., I. Westfield and J.B. Ries, 2013: CO₂-induced ocean acidification impairs calcification in the tropical urchin *Echinometra viridis*. *Journal of Experimental Marine Biology and Ecology*, **440**, 169-175.
- Couturier**, C.S., J.A.W. Stecyk, J.L. Rummer, P.L. Munday and G.E. Nilsson, 2013: Species-specific effects of near-future CO₂ on the respiratory performance of two tropical prey fish and their predator. *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*, **166**(3), 482-489.
- Crawley**, A., D.I. Kline, S. Dunn, K. Anthony, and S. Dove, 2010: The effect of ocean acidification on symbiont photorespiration and productivity in *Acropora formosa*. *Global Change Biology*, **16**(2), 851-863.
- Crim**, R.N., J.M. Sunday and C.D.G. Harley, 2011: Elevated seawater CO₂ concentrations impair larval development and reduce larval survival in endangered northern abalone (*Haliotis kamtschatkana*). *Journal of Experimental Marine Biology and Ecology*, **400**(1-2), 272-277.
- Cummings**, V., J. Hewitt, A. Van Rooyen, K. Currie, S. Beard, S. Thrush, J. Norkko, N. Barr, P. Heath, N.J. Halliday, R. Sedcole, A. Gomez, C. McGraw and V. Metcalf, 2011: Ocean acidification at high latitudes: potential effects on functioning of the Antarctic bivalve *Laternula elliptica*. *PLoS ONE*, **6**(1), e16069, doi: 10.1371/journal.pone.0016069.
- Czerny**, J., J. Barcelos e Ramos and U. Riebesell, 2009: Influence of elevated CO₂ concentrations on cell division and nitrogen fixation rates in the bloom-forming cyanobacterium *Nodularia spumigena*. *Biogeosciences*, **6**(9), 1865-1875.
- De Bodt**, C., N. Van Oostende, J. Harlay, K. Sabbe and L. Chou, 2010: Individual and interacting effects of pCO₂ and temperature on *Emiliania huxleyi* calcification: study of the calcite production, the coccolith morphology and the coccosphere size. *Biogeosciences*, **7**(5), 1401-1412.
- de la Haye**, K.L., J.I. Spicer, S. Widdicombe and M. Briffa, 2012: Reduced pH sea water disrupts chemo-responsive behaviour in an intertidal crustacean. *Journal of Experimental Marine Biology and Ecology*, **412**, 134-140.
- Deigweiher**, K., N. Koschnick, H.-O. Pörtner and M. Lucassen, 2008: Acclimation of ion regulatory capacities in gills of marine fish under environmental hypercapnia. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, **295**(5), R1660-1670, doi: 10.1152/ajpregu.90403.2008.
- Deigweiher**, K., T. Hirse, C. Bock, M. Lucassen and H.-O. Pörtner, 2010: Hypercapnia induced shifts in gill energy budgets of Antarctic notothenioids. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **180**(3), 347-359.
- Delille**, B., J. Harlay, I. Zondervan, S. Jacquet, L. Chou, R. Wollast, R.G.J. Bellerby, M. Frankignoulle, A. Vieira Borges, U. Riebesell and J.-P. Gattuso, 2005: Response of primary production and calcification to changes of pCO₂ during experimental blooms of the coccolithophorid *Emiliania huxleyi*. *Global Biogeochemical Cycles*, **19**(2), GB2023, doi: 10.1029/2004GB002318.
- Devine**, B.M. and P.L. Munday, 2013: Habitat preferences of coral-associated fishes are altered by short-term exposure to elevated CO₂. *Marine Biology*, **160**(8), 1955-1962.
- Devine**, B.M., P.L. Munday and G.P. Jones, 2012: Homing ability of adult cardinalfish is affected by elevated carbon dioxide. *Oecologia*, **168**(1), 269-276.
- Devine**, B.M., P.L. Munday and G.P. Jones, 2012: Rising CO₂ concentrations affect settlement behaviour of larval damselfishes. *Coral Reefs*, **31**(1), 229-238.
- Diaz-Pulido**, G., M. Gouezo, B. Tilbrook, S. Dove and K.R.N. Anthony, 2011: High CO₂ enhances the competitive strength of seaweeds over corals. *Ecology Letters*, **14**(2), 156-162.
- Diaz-Pulido**, G., K.R.N. Anthony, D.I. Kline, S. Dove and O. Hoegh-Guldberg, 2012: Interactions between ocean acidification and warming on the mortality and dissolution of coralline algae. *Journal of Phycology*, **48**(1), 32-39.

- Dickinson, G.H., O.B. Matoos, R.T. Tourek, I.M. Sokolova and E. Beniash, 2013: Environmental salinity modulates the effects of elevated CO₂ levels on juvenile hard-shell clams, *Mercenaria mercenaria*. *Journal of Experimental Biology*, **216**(14), 2607-2618.
- Dickinson, G.H., A.V. Ivanina, O.B. Matoos, H.-O. Pörtner, G. Lannig, C. Bock, E. Beniash and I.M. Sokolova, 2012: Interactive effects of salinity and elevated CO₂ levels on juvenile eastern oysters, *Crassostrea virginica*. *Journal of Experimental Biology*, **215**(1), 29-43.
- Dineshram, R., K.K.W. Wong, S. Xiao, Z. Yu, P.Y. Qian and V. Thiyagarajan, 2012: Analysis of Pacific oyster larval proteome and its response to high-CO₂. *Marine Pollution Bulletin*, **64**(10), 2160-2167.
- Dineshram, R., V. Thiyagarajan, A. Lane, Y. Ziniu, S. Xiao and P.Y. Leung, 2013: Elevated CO₂ alters larval proteome and its phosphorylation status in the commercial oyster, *Crassostrea hongkongensis*. *Marine Biology*, **160**(8), 2189-2205.
- Dissanayake, A. and A. Ishimatsu, 2011: Synergistic effects of elevated CO₂ and temperature on the metabolic scope and activity in a shallow-water coastal decapod (*Metapenaeus joyneri*; Crustacea: Penaeidae). *ICES Journal of Marine Science*, **68**(6), 1147-1154.
- Dixon, D.L., P.L. Munday and G.P. Jones, 2009: Ocean acidification disrupts the innate ability of fish to detect predator olfactory cues. *Ecology Letters*, **13**(1), 68-75.
- Domenici, P., B. Allan, M.I. McCormick and P.L. Munday, 2012: Elevated carbon dioxide affects behavioural lateralization in a coral reef fish. *Biology Letters*, **8**(1), 78-81.
- Donohue, P., P. Calosi, A.H. Bates, B. Laverock, S. Rastrick, F.C. Mark, A. Strobel and S. Widdicombe, 2012: Impact of exposure to elevated pCO₂ on the physiology and behaviour of an important ecosystem engineer, the burrowing shrimp *Upogebia deltaura*. *Aquatic Biology*, **15**(1), 73-86.
- Doo, S.S., S.A. Dworjanyn, S.A. Foo, N.A. Soars and M. Byrne, 2012: Impacts of ocean acidification on development of the meroplanktonic larval stage of the sea urchin *Centrostephanus rodgersii*. *ICES Journal of Marine Science*, **69**(3), 460-464.
- Dorey, N., F. Melzner, S. Martin, F. Oberhänsli, J.-L. Teysse, P. Bustamante, J.-P. Gattuso and T. Lacoue-Labarthe, 2013: Ocean acidification and temperature rise: effects on calcification during early development of the cuttlefish *Sepia officinalis*. *Marine Biology*, **160**(8), 2007-2022.
- Doropoulos, C. and G. Diaz-Pulido, 2013: High CO₂ reduces the settlement of a spawning coral on three common species of crustose coralline algae. *Marine Ecology Progress Series*, **475**, 93-99.
- Doropoulos, C., S. Ward, G. Diaz-Pulido, O. Hoegh-Guldberg and P.J. Mumby, 2012: Ocean acidification reduces coral recruitment by disrupting intimate larval-algal settlement interactions. *Ecology Letters*, **15**(4), 338-346.
- Drenkard, E.J., A.L. Cohen, D.C. McCorkle, S.J. de Putron, V.R. Starczak and A.E. Zicht, 2013: Calcification by juvenile corals under heterotrophy and elevated CO₂. *Coral Reefs*, **32**(3), 727-735.
- Dufault, A.M., A. Ninokawa, L. Bramanti, V.R. Cumbo, T.-Y. Fan and P.J. Edmunds, 2013: The role of light in mediating the effects of ocean acidification on coral calcification. *Journal of Experimental Biology*, **216**(9), 1570-1577.
- Dupont, S. and M. Thorndyke, 2012: Relationship between CO₂-driven changes in extracellular acid-base balance and cellular immune response in two polar echinoderm species. *Journal of Experimental Marine Biology and Ecology*, **424**, 32-37.
- Dupont, S., B. Lundve and M. Thorndyke, 2010: Near future ocean acidification increases growth rate of the lecithotrophic larvae and juveniles of the sea star *Crossaster papposus*. *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, **314B**(5), 382-389.
- Dupont, S., J. Havenhand, W. Thorndyke, L. Peck and M. Thorndyke, 2008: Near-future level of CO₂-driven ocean acidification radically affects larval survival and development in the brittlestar *Ophiothrix fragilis*. *Marine Ecology Progress Series*, **373**, 285-294.
- Dupont, S., N. Dorey, M. Stumpp, F. Melzner and M. Thorndyke, 2013: Long-term and trans-life-cycle effects of exposure to ocean acidification in the green sea urchin *Strongylocentrotus droebachiensis*. *Marine Biology*, **160**(8), 1835-1843.
- Durrant, H.M.S., G.F. Clark, S.A. Dworjanyn, M. Byrne and E.L. Johnston, 2013: Seasonal variation in the effects of ocean warming and acidification on a native bryozoan, *Celleporaria nodulosa*. *Marine Biology*, **160**(8), 1903-1911.
- Edmunds, P.J., 2011: Zooplanktivory ameliorates the effects of ocean acidification on the reef coral *Porites* spp. *Limnology and Oceanography*, **56**(6), 2402-2410.
- Edmunds, P.J., D. Brown and V. Moriarty, 2012: Interactive effects of ocean acidification and temperature on two scleractinian corals from Moorea, French Polynesia. *Global Change Biology*, **18**(7), 2173-2183.
- Edmunds, P.J., R.C. Carpenter and S. Comeau, 2013: Understanding the threats of ocean acidification to coral reefs. *Oceanography*, **26**(3), 149-152.
- Egilsdottir, H., J.I. Spicer and S.D. Rundle, 2009: The effect of CO₂ acidified sea water and reduced salinity on aspects of the embryonic development of the amphipod *Echinogammarus marinus* (Leach). *Marine Pollution Bulletin*, **58**(8), 1187-1191.
- Egilsdottir, H., F. Noisette, L.M.-L.J. Noël, J. Olafsson and S. Martin, 2013: Effects of pCO₂ on physiology and skeletal mineralogy in a tidal pool coralline alga *Corallina elongata*. *Marine Biology*, **160**(8), 2103-2112.
- Ellis, R.P., J. Bersey, S.D. Rundle, J.M. Hall-Spencer and J.I. Spicer, 2009: Subtle but significant effects of CO₂ acidified seawater on embryos of the intertidal snail, *Littorina obtusata*. *Aquatic Biology*, **5**, 41-48.
- Engel, A., K.G. Schulz, U. Riebesell, R. Bellerby, B. Delille and M. Schartau, 2008: Effects of CO₂ on particle size distribution and phytoplankton abundance during a mesocosm bloom experiment (PeECE II). *Biogeosciences*, **5**(2), 509-521.
- Engel, A., I. Zondervan, K. Aerts, L. Beaufort, A. Benthien, L. Chou, B. Delille, J.-P. Gattuso, J. Harlay, C. Heemann, L. Hoffmann, S. Jacquet, J. Nejtgaard, M.-D. Pizay, E. Rochelle-Newall, U. Schneider, A. Terdrueggen and U. Riebesell, 2005: Testing the direct effect of CO₂ concentration on a bloom of the coccolithophorid *Emiliana huxleyi* in mesocosm experiments. *Limnology and Oceanography*, **50**(2), 493-507.
- Enzor, L.A., M.L. Zippay and S.P. Place, 2013: High latitude fish in a high CO₂ world: Synergistic effects of elevated temperature and carbon dioxide on the metabolic rates of Antarctic notothenioids. *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*, **164**(1), 154-161.
- Ericson, J.A., M.D. Lamare, S.A. Morley and M.F. Barker, 2010: The response of two ecologically important Antarctic invertebrates (*Sterechninus neumayeri* and *Parborlasia corrugatus*) to reduced seawater pH: effects on fertilisation and embryonic development. *Marine Biology*, **157**(12), 2689-2702.
- Ericson, J.A., M.A. Ho, A. Miskelly, C.K. King, P. Virtue, B. Tilbrook and M. Byrne, 2012: Combined effects of two ocean change stressors, warming and acidification, on fertilisation and early development of the Antarctic echinoid *Sterechninus neumayeri*. *Polar Biology*, **35**(7), 1027-1034.
- Esbaugh, A.J., R. Heuer and M. Grosell, 2012: Impacts of ocean acidification on respiratory gas exchange and acid-base balance in a marine teleost, *Opsanus beta*. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **182**(7), 921-934.
- Evans, T.G., F. Chan, B.A. Menge and G.E. Hofmann, 2013: Transcriptomic responses to ocean acidification in larval sea urchins from a naturally variable pH environment. *Molecular Ecology*, **22**(6), 1609-1625.
- Fabricius, K.E., C. Langdon, S. Uthicke, C. Humphrey, S. Noonan, G. De'ath, R. Okazaki, N. Muehlehner, M.S. Glas and J.M. Lough, 2011: Losers and winners in coral reefs acclimatized to elevated carbon dioxide concentrations. *Nature Climate Change*, **1**(3), 165-169.
- Fehsenfeld, S., R. Kiko, Y. Appelhans, D.W. Towle, M. Zimmer and F. Melzner, 2011: Effects of elevated seawater pCO₂ on gene expression patterns in the gills of the green crab, *Carcinus maenas*. *Bmc Genomics*, **12**, 488, doi: 10.1186/1471-2164-12-488.
- Feng, Y., M.E. Warner, Y. Zhang, J. Sun, F.X. Fu, J.M. Rose and D.A. Hutchins, 2008: Interactive effects of increased pCO₂, temperature and irradiance on the marine coccolithophore *Emiliana huxleyi* (Prymnesiophyceae). *European Journal of Phycology*, **43**(1), 87-98.
- Feng, Y., C.E. Hare, K. Leblanc, J.M. Rose, Y. Zhang, G.R. DiTullio, P.A. Lee, S.W. Wilhelm, J.M. Rowe, J. Sun, N. Nemcek, C. Gueguen, U. Passow, I. Benner, C. Brown and D.A. Hutchins, 2009: Effects of increased pCO₂ and temperature on the North Atlantic spring bloom. I. The phytoplankton community and biogeochemical response. *Marine Ecology Progress Series*, **388**, 13-25.
- Fernández-Reiriz, J., P. Range, X.A. Álvarez-Salgado and U. Labarta, 2011: Physiological energetics of juvenile clams (*Ruditapes decussatus*) in a high CO₂ coastal ocean. *Marine Ecology Progress Series*, **433**, 97-105.
- Fernández-Reiriz, M.J., P. Range, X.A. Álvarez-Salgado, J. Espinosa and U. Labarta, 2012: Tolerance of juvenile *Mytilus galloprovincialis* to experimental seawater acidification. *Marine Ecology Progress Series*, **454**, 65-74.
- Ferrari, M.C.O., D.L. Dixon, P.L. Munday, M.I. McCormick, M.G. Meekan, A. Sih and D.P. Chivers, 2011: Intrageneric variation in antipredator responses of coral reef fishes affected by ocean acidification: implications for climate change projections on marine communities. *Global Change Biology*, **17**(9), 2980-2986.
- Ferrari, M.C.O., M.I. McCormick, P.L. Munday, M.G. Meekan, D.L. Dixon, Ö. Lonnstedt and D.P. Chivers, 2011: Putting prey and predator into the CO₂ equation – qualitative and quantitative effects of ocean acidification on predator-prey interactions. *Ecology Letters*, **14**(11), 1143-1148.

- Ferrari, M.C.O., M.I. McCormick, P.L. Munday, M.G. Meekan, D.L. Dixon, O. Lönnstedt and D.P. Chivers, 2012:** Effects of ocean acidification on visual risk assessment in coral reef fishes. *Functional Ecology*, **26(3)**, 553-558.
- Ferrari, M.C.O., R.P. Manassa, D.L. Dixon, P.L. Munday, M.I. McCormick, M.G. Meekan, A. Sih and D.P. Chivers, 2012:** Effects of ocean acidification on learning in coral reef fishes. *PLoS ONE*, **7(2)**, e31478, doi: 10.1371/journal.pone.0031478.
- Findlay, H., M.A. Kendall, J. Spicer and S. Widdicombe, 2009:** Future high CO₂ in the intertidal may compromise adult barnacle *Semibalanus balanoides* survival and embryonic development rate. *Marine Ecology Progress Series*, **389**, 193-202.
- Findlay, H., M.A. Kendall, J.I. Spicer and S. Widdicombe, 2010:** Post-larval development of two intertidal barnacles at elevated CO₂ and temperature. *Marine Biology*, **157(4)**, 725-735.
- Findlay, H.S., M.A. Kendall, J.I. Spicer and S. Widdicombe, 2010:** Relative influences of ocean acidification and temperature on intertidal barnacle post-larvae at the northern edge of their geographic distribution. *Estuarine, Coastal and Shelf Science*, **86(4)**, 675-682.
- Fiorini, S., J.J. Middelburg and J.-P. Gattuso, 2011:** Effects of elevated CO₂ partial pressure and temperature on the coccolithophore *Syracosphaera pulchra*. *Aquatic Microbial Ecology*, **64(3)**, 221-232.
- Fiorini, S., J.J. Middelburg and J.-P. Gattuso, 2011:** Testing the effects of elevated pCO₂ on coccolithophores (Prymnesiophyceae): Comparison between haploid and diploid life stages. *Journal of Phycology*, **47(6)**, 1281-1291.
- Fiorini, S., J.-P. Gattuso, P. van Rijswijk and J. Middelburg, 2010:** Coccolithophores lipid and carbon isotope composition and their variability related to changes in seawater carbonate chemistry. *Journal of Experimental Marine Biology and Ecology*, **394(1-2)**, 74-85.
- Form, A. and U. Riebesell, 2012:** Acclimation to ocean acidification during long-term CO₂ exposure in the cold-water coral *Lophelia pertusa*. *Global Change Biology*, **18(3)**, 843-853.
- Frommel, A.Y., V. Stiebens, C. Clemmesen and J. Havenhand, 2010:** Effect of ocean acidification on marine fish sperm (Baltic cod: *Gadus morhua*). *Biogeosciences*, **7(12)**, 3915-3919.
- Frommel, A.Y., A. Schubert, U. Piatkowski and C. Clemmesen, 2013:** Egg and early larval stages of Baltic cod, *Gadus morhua*, are robust to high levels of ocean acidification. *Marine Biology*, **160(8)**, 1825-1834.
- Frommel, A.Y., R. Maneja, D. Lowe, A.M. Malzahn, A.J. Geffen, A. Folkvord, U. Piatkowski, T.B.H. Reusch and C. Clemmesen, 2012:** Severe tissue damage in Atlantic cod larvae under increasing ocean acidification. *Nature Climate Change*, **2(1)**, 42-46.
- Fu, F.-X., M.E. Warner, Y. Zhang, Y. Feng and D.A. Hutchins, 2007:** Effects of increased temperature and CO₂ on photosynthesis, growth, and elemental ratios in marine *Synechococcus* and *Prochlorococcus* (Cyanobacteria). *Journal of Phycology*, **43(3)**, 485-496.
- Fu, F.-X., Y. Zhang, M.E. Warner, Y. Feng, J. Sun and D.A. Hutchins, 2008:** A comparison of future increased CO₂ and temperature effects on sympatric *Heterosigma akashiwo* and *Prorocentrum minimum*. *Harmful Algae*, **7(1)**, 76-90.
- Fu, F.X., A.R. Place, N.S. Garcia and D.A. Hutchins, 2010:** CO₂ and phosphate availability control the toxicity of the harmful bloom dinoflagellate *Karlodinium veneficum*. *Aquatic Microbial Ecology*, **59**, 55-65.
- Fujita, K., M. Hikami, A. Suzuki, A. Kuroyanagi, K. Sakai, H. Kawahata and Y. Nojiri, 2011:** Effects of ocean acidification on calcification of symbiont-bearing reef foraminifers. *Biogeosciences*, **8(8)**, 2089-2098.
- Gabay, Y., Y. Benayahu and M. Fine, 2013:** Does elevated pCO₂ affect reef octocorals? *Ecology and Evolution*, **3(3)**, 465-473.
- Gao, K., Y. Aruga, K. Asada, T. Ishihara, T. Akano and M. Kiyohara, 1993:** Calcification in the articulated coralline alga *Corallina pilulifera*, with special reference to the effect of elevated CO₂ concentration. *Marine Biology*, **117(1)**, 129-132.
- Gao, K., J. Xu, G. Gao, Y. Li, D.A. Hutchins, B. Huang, L. Wang, Y. Zheng, P. Jin, X. Cai, D.-P. Hader, W. Li, K. Xu, N. Liu and U. Riebesell, 2012:** Rising CO₂ and increased light exposure synergistically reduce marine primary productivity. *Nature Climate Change*, **2(7)**, 519-523.
- Gao, K.S. and Y.Q. Zheng, 2010:** Combined effects of ocean acidification and solar UV radiation on photosynthesis, growth, pigmentation and calcification of the coralline alga *Corallina sessilis* (Rhodophyta). *Global Change Biology*, **16(8)**, 2388-2398.
- Garcia, N.S., F.-X. Fu and D.A. Hutchins, 2013:** Colimitation of the unicellular photosynthetic diazotroph *Crocospaera watsonii* by phosphorus, light, and carbon dioxide. *Limnology and Oceanography*, **58(4)**, 1501-1512.
- Garcia, N.S., F.-X. Fu, C.L. Breene, P.W. Bernhardt, M.R. Mulholland, J.A. Sohm and D.A. Hutchins, 2011:** Interactive effects of irradiance and CO₂ on CO₂ fixation and N₂ fixation in the diazotroph *Trichodesmium erythraeum* (cyanobacteria). *Journal of Phycology*, **47(6)**, 1292-1303.
- Garcia, N.S., F.-X. Fu, C.L. Breene, E.K. Yu, P.W. Bernhardt, M.R. Mulholland and D.A. Hutchins, 2013:** Combined effects of CO₂ and light on large and small isolates of the unicellular N₂-fixing cyanobacterium *Crocospaera watsonii* from the western tropical Atlantic Ocean. *European Journal of Phycology*, **48(1)**, 128-139.
- Gaylord, B., T.M. Hill, E. Sanford, E.A. Lenz, L.A. Jacobs, K.N. Sato, A.D. Russell and A. Hettinger, 2011:** Functional impacts of ocean acidification in an ecologically critical foundation species. *Journal of Experimental Biology*, **214(15)**, 2586-2594.
- Gazeau, F., J.-P. Gattuso, M. Greaves, H. Elderfield, J. Peene, C.H.R. Heip and J.J. Middelburg, 2011:** Effect of carbonate chemistry alteration on the early embryonic development of the Pacific oyster (*Crassostrea gigas*). *PLoS ONE*, **6(8)**, doi: 10.1371/journal.pone.0023010.
- Gervais, F. and U. Riebesell, 2001:** Effect of phosphorus limitation on elemental composition and stable carbon isotope fractionation in a marine diatom growing under different CO₂ concentrations. *Limnology and Oceanography*, **46**, 497-504.
- Ginger, K.W.K., C.B.S. Vera, R. Dineshram, C.K.S. Dennis, L.J. Adela, Z. Yu and V. Thiyagarajan, 2013:** Larval and post-larval stages of Pacific oyster (*Crassostrea gigas*) are resistant to elevated CO₂. *PLoS ONE*, **8(5)**, e64147, doi: 10.1371/journal.pone.0064147.
- Gobler, C.J. and S.C. Talmage, 2013:** Short- and long-term consequences of larval stage exposure to constantly and ephemerally elevated carbon dioxide for marine bivalve populations. *Biogeosciences*, **10(4)**, 2241-2253.
- Godinot, C., F. Houlbrèque, R. Grover and C. Ferrier-Pages, 2011:** Coral uptake of inorganic phosphorus and nitrogen negatively affected by simultaneous changes in temperature and pH. *PLoS ONE*, **6(9)**, doi: 10.1371/journal.pone.0025024.
- Gooding, R.A., C.D.G. Harley and E. Tang, 2009:** Elevated water temperature and carbon dioxide concentration increase the growth of a keystone echinoderm. *Proceedings of the National Academy of Sciences of the United States of America*, **106(23)**, 9316-9321.
- Green, M.A., M.E. Jones, C.L. Boudreau, R.L. Moore and B.A. Westman, 2004:** Dissolution mortality of juvenile bivalves in coastal marine deposits. *Limnology and Oceanography*, **49(3)**, 727-734.
- Gutowaska, M.A., H.-O. Pörtner and F. Melzner, 2008:** Growth and calcification in the cephalopod *Sepia officinalis* under elevated seawater pCO₂. *Marine Ecology Progress Series*, **373**, 303-309.
- Gutowaska, M.A., F. Melzner, H.-O. Pörtner and S. Meier, 2010:** Cuttlebone calcification increases during exposure to elevated seawater pCO₂ in the cephalopod *Sepia officinalis*. *Marine Biology*, **157(7)**, 1653-1663.
- Hahn, S., R. Rodolfo-Metalpa, E. Griesshaber, W.W. Schmahl, D. Buhl, J.M. Hall-Spencer, C. Baggini, K.T. Fehr and A. Immenhauser, 2012:** Marine bivalve shell geochemistry & ultrastructure from modern low pH environments: environmental effect versus experimental bias. *Biogeosciences*, **9(5)**, 1897-1914.
- Hale, R., P. Calosi, L. McNeill, N. Mieszowska and S. Widdicombe, 2011:** Predicted levels of future ocean acidification and temperature rise could alter community structure and biodiversity in marine benthic communities. *Oikos*, **120(5)**, 661-674.
- Hall-Spencer, J.M., R. Rodolfo-Metalpa, S. Martin, E. Ransome, M. Fine, S.M. Turner, S.J. Rowley, D. Tedesco and M.C. Buia, 2008:** Volcanic carbon dioxide vents show ecosystem effects of ocean acidification. *Nature*, **454(7200)**, 96-99.
- Hammer, K.M., E. Kristiansen and K.E. Zachariassen, 2011:** Physiological effects of hypercapnia in the deep-sea bivalve *Acesta excavata* (Fabricius, 1779) (Bivalvia; Limidae). *Marine Environmental Research*, **72(3)**, 135-142.
- Hammer, K.M., S.A. Pedersen and T.R. Størseth, 2012:** Elevated seawater levels of CO₂ change the metabolic fingerprint of tissues and hemolymph from the green shore crab *Carcinus maenas*. *Comparative Biochemistry and Physiology D: Genomics and Proteomics*, **7(3)**, 292-302.
- Hammond, L.M. and G.E. Hofmann, 2012:** Early developmental gene regulation in *Strongylocentrotus purpuratus* embryos in response to elevated CO₂ seawater conditions. *The Journal of Experimental Biology*, **215(14)**, 2445-2454.
- Hardy, K.M., C.R. Follett, L.E. Burnett and S.C. Lema, 2012:** Gene transcripts encoding hypoxia-inducible factor (HIF) exhibit tissue- and muscle fiber type-dependent responses to hypoxia and hypercapnic hypoxia in the Atlantic blue crab, *Callinectes sapidus*. *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*, **163(1)**, 137-146.

- Harley, J., A.V. Borges, C. Van Der Zee, B. Delille, R.H.M. Godoi, L.S. Schiettecatte, N. Røevros, K. Aerts, P.E. Lapernat, L. Rebreanu, S. Groom, M.H. Daro, R. Van Grieken and L. Chou, 2010: Biogeochemical study of a coccolithophore bloom in the northern Bay of Biscay (NE Atlantic Ocean) in June 2004. *Progress in Oceanography*, **66**(3–4), 317–336.
- Hauton, C., T. Tyrrell and J. Williams, 2009: The subtle effects of sea water acidification on the amphipod *Gammarus locusta*. *Biogeosciences*, **6**(8), 1479–1489.
- Havenhand, J.N. and P. Schlegel, 2009: Near-future levels of ocean acidification do not affect sperm motility and fertilization kinetics in the oyster *Crassostrea gigas*. *Biogeosciences*, **6**(12), 3009–3015.
- Havenhand, J.N., F.-R. Buttler, M.C. Thorndyke and J.E. Williamson, 2008: Near-future levels of ocean acidification reduce fertilization success in a sea urchin. *Current Biology*, **18**(15), R651–R652, doi: 10.1016/j.cub.2008.06.015.
- Hayashi, M., J. Kita and A. Ishimatsu, 2004: Comparison of the acid-base responses to CO₂ and acidification in Japanese flounder (*Paralichthys olivaceus*). *Marine Pollution Bulletin*, **49**(11–12), 1062–1065.
- Haynert, K., J. Schönfeld, U. Riebesell and I. Polovodova, 2011: Biometry and dissolution features of the benthic foraminifer *Ammonia aomoriensis* at high pCO₂. *Marine Ecology Progress Series*, **432**, 53–67.
- Heinemann, A., J. Fietzke, F. Melzner, F. Böhm, J. Thomsen, D. Garbe-Schönberg and A. Eisenhauer, 2012: Conditions of *Mytilus edulis* extracellular body fluids and shell composition in a pH-treatment experiment: Acid-base status, trace elements and delta B-11. *Geochemistry Geophysics Geosystems*, **13**, Q01005.
- Hernroth, B., S. Baden, M. Thorndyke and S. Dupont, 2011: Immune suppression of the echinoderm *Asterias rubens* (L.) following long-term ocean acidification. *Aquatic Toxicology*, **103**(3–4), 222–224.
- Heuer, R.M., A.J. Esbaugh and M. Grosell, 2012: Ocean acidification leads to counterproductive intestinal base loss in the gulf toadfish (*Opsanus beta*). *Physiological and Biochemical Zoology*, **85**(5), 450–459.
- Hiebenthal, C., E.E.R. Philipp, A. Eisenhauer and M. Wahl, 2013: Effects of seawater pCO₂ and temperature on shell growth, shell stability, condition and cellular stress of Western Baltic Sea *Mytilus edulis* (L.) and *Arctica islandica* (L.). *Marine Biology*, **160**(8), 2073–2087.
- Hikami, M., H. Ushie, T. Irie, K. Fujita, A. Kuroyanagi, K. Sakai, Y. Nojiri, A. Suzuki and H. Kawahata, 2011: Contrasting calcification responses to ocean acidification between two reef foraminifers harboring different algal symbionts. *Geophysical Research Letters*, **38**(19), L19601, doi:10.1029/2011GL048501.
- Hofmann, L.C., S. Straub and K. Bischof, 2012: Competition between calcifying and noncalcifying temperate marine macroalgae under elevated CO₂ levels. *Marine Ecology Progress Series*, **464**, 89–105.
- Hofmann, L.C., S. Straub and K. Bischof, 2013: Elevated CO₂ levels affect the activity of nitrate reductase and carbonic anhydrase in the calcifying rhodophyte *Corallina officinalis*. *Journal of Experimental Botany*, **64**(4), 899–908.
- Holcomb, M., D.C. McCorkle and A.L. Cohen, 2010: Long-term effects of nutrient and CO₂ enrichment on the temperate coral *Astrangia poculata* (Ellis and Solander, 1786). *Journal of Experimental Marine Biology and Ecology*, **386**(1–2), 27–33.
- Holcomb, M., A.L. Cohen and D.C. McCorkle, 2012: An investigation of the calcification response of the scleractinian coral *Astrangia poculata* to elevated pCO₂ and the effects of nutrients, zooxanthellae and gender. *Biogeosciences*, **9**(1), 29–39.
- Hu, M.Y., Y.-C. Tseng, M. Stumpp, M.A. Gutowska, R. Kiko, M. Lucassen and F. Melzner, 2011: 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*, **300**(5), 1100–1114.
- Hüning, A.K., F. Melzner, J. Thomsen, M.A. Gutowska, L. Krämer, S. Frickenhaus, P. Rosenstiel, H.-O. Pörtner, E.E.R. Philipp and M. Lucassen, 2013: Impacts of seawater acidification on mantle gene expression patterns of the Baltic Sea blue mussel: implications for shell formation and energy metabolism. *Marine Biology*, **160**(8), 1845–1861.
- Hurst, T.P., E.R. Fernandez and J.T. Mathis, 2013: Effects of ocean acidification on hatch size and larval growth of walleye pollock (*Theragra chalcogramma*). *ICES Journal of Marine Science*, **70**(4), 812–822.
- Hurst, T.P., E.R. Fernandez, J.T. Mathis, J.A. Miller, C.M. Stinson and E.F. Ahgeak, 2012: Resiliency of juvenile walleye pollock to projected levels of ocean acidification. *Aquatic Biology*, **17**(3), 247–259.
- Hutchins, D.A., M.R. Mulholland and F. Fu, 2009: Nutrient cycles and marine microbes in a CO₂-enriched ocean. *Oceanography*, **22**(4), 128–145.
- Hutchins, D.A., F.-X. Fu, E.A. Webb, N. Walworth and A. Tagliabue, 2013: Taxon-specific response of marine nitrogen fixers to elevated carbon dioxide concentrations. *Nature Geoscience*, **6**(9), 790–795.
- Hutchins, D.A., F.X. Fu, Y. Zhang, M.E. Warner, Y. Feng, K. Portune, P.W. Bernhardt and M.R. Mulholland, 2007: CO₂ control of *Trichodesmium* N₂ fixation, photosynthesis, growth rates, and elemental ratios: implications for past, present, and future ocean biogeochemistry. *Limnology and Oceanography*, **52**(4), 1293–1304.
- Iglesias-Rodriguez, M.D., P.R. Halloran, R.E. Rickaby, I.R. Hall, E. Colmenero-Hidalgo, J.R. Gittins, D.R. Green, T. Tyrrell, S.J. Gibbs, P. von Dassow, E. Rehm, E.V. Armbrust and K.P. Boessenkool, 2008: Phytoplankton calcification in a high-CO₂ world. *Science*, **320**(5874), 336–340.
- Inoue, M., R. Suwa, A. Suzuki, K. Sakai and H. Kawahata, 2011: Effects of seawater pH on growth and skeletal U/Ca ratios of *Acropora digitifera* coral polyps. *Geophysical Research Letters*, **38**, L12809, doi: 10.1029/2011GL047786.
- Ivanina, A.V., G.H. Dickinson, O.B. Matoo, R. Bagwe, A. Dickinson, E. Beniash and I.M. Sokolova, 2013: Interactive effects of elevated temperature and CO₂ levels on energy metabolism and biomineralization of marine bivalves *Crassostrea virginica* and *Mercenaria mercenaria*. *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*, **166**(1), 101–111.
- Jin, P., K. Gao, V.E. Villafañe, D.A. Campbell and E.W. Helbling, 2013: Ocean acidification alters the photosynthetic responses of a coccolithophorid to fluctuating ultraviolet and visible radiation. *Plant Physiology*, **162**(4), 2084–2094.
- Johnson, M.D. and R.C. Carpenter, 2012: Ocean acidification and warming decrease calcification in the crustose coralline alga *Hydrolithon onkodes* and increase susceptibility to grazing. *Journal of Experimental Marine Biology and Ecology*, **434–435**, 94–101.
- Johnson, V.R., B.D. Russell, K.E. Fabricius, C. Brownlee and J.M. Hall-Spencer, 2012: Temperate and tropical brown macroalgae thrive, despite decalcification, along natural CO₂ gradients. *Global Change Biology*, **18**(9), 2792–2803.
- Johnson, V.R., C. Brownlee, R.E.M. Rickaby, M. Graziano, M. Milazzo and J.M. Hall-Spencer, 2013: Responses of marine benthic microalgae to elevated CO₂. *Marine Biology*, **160**(8), 1813–1824.
- Jones, B.M., M.D. Iglesias-Rodriguez, P.J. Skipp, R.J. Edwards, M.J. Greaves, J.R. Young, H. Elderfield and C.D. O'Connor, 2013: Responses of the *Emiliania huxleyi* proteome to ocean acidification. *PLoS ONE*, **8**(4), e61868, doi: 10.1371/journal.pone.0061868.
- Jury, C.P., R.F. Whitehead and A.M. Szmant, 2010: Effects of variations in carbonate chemistry on the calcification rates of *Madracis auretenra* (= *Madracis mirabilis* sensu Wells, 1973): bicarbonate concentrations best predict calcification rates. *Global Change Biology*, **16**(5), 1632–1644.
- Jutfelt, F., K. Bresolin de Souza, A. Vuylsteke and J. Sturve, 2013: Behavioural disturbances in a temperate fish exposed to sustained high-CO₂ levels. *PLoS ONE*, **8**(6), e65825, doi: 10.1371/journal.pone.0065825.
- Kaniewska, P., P.R. Campbell, D.I. Kline, M. Rodriguez-Lanetty, D.J. Miller, S. Dove and O. Hoegh-Guldberg, 2012: Major cellular and physiological impacts of ocean acidification on a reef building coral. *PLoS ONE*, **7**(4), e34659, doi: 10.1371/journal.pone.0034659.
- Kaplan, M.B., T.A. Mooney, D.C. McCorkle and A.L. Cohen, 2013: Adverse effects of ocean acidification on early development of squid (*Doryteuthis pealeii*). *PLoS ONE*, **8**(5), e63714, doi: 10.1371/journal.pone.0063714.
- Kawaguchi, S., H. Kurihara, R. King, L. Hale, T. Berli, J.P. Robinson, A. Ishida, M. Wakita, P. Virtue, S. Nicol and A. Ishimatsu, 2011: Will krill fare well under Southern Ocean acidification? *Biology Letters*, **7**(2), 288–291.
- Kerrison, P., D.J. Suggett, L.J. Hepburn and M. Steinke, 2012: Effect of elevated pCO₂ on the production of dimethylsulphoniopropionate (DMSP) and dimethylsulphide (DMS) in two species of *Ulva* (Chlorophyceae). *Biogeochemistry*, **110**(1–3), 5–16.
- Kikkawa, T., A. Ishimatsu and J. Kita, 2003: Acute CO₂ tolerance during the early developmental stages of four marine teleosts. *Environmental Toxicology*, **18**(6), 375–382.
- Kikkawa, T., T. Sato, J. Kita and A. Ishimatsu, 2006: Acute toxicity of temporally varying seawater CO₂ conditions on juveniles of Japanese sillago (*Sillago japonica*). *Marine Pollution Bulletin*, **52**(6), 621–625.
- Kikkawa, T., Y. Watanabe, Y. Katayama, J. Kita and A. Ishimatsu, 2008: Acute CO₂ tolerance limits of juveniles of three marine invertebrates, *Sepia lycidas*, *Septoteuthis lessoniana*, and *Marsupenaeus japonicus*. *Plankton and Benthos Research*, **3**(3), 184–187.

- Kim, J.-M., K. Lee, S. Kyoungsoo, K. Jung-Hoon, H.-W. Lee, M. Kim, P.-G. Jang and M.-C. Jang, 2006: The effect of seawater CO₂ concentration on growth of a natural phytoplankton assemblage in a controlled mesocosm experiment. *Limnology and Oceanography*, **51(4)**, 1629-1636.
- Kim, J.-M., K. Lee, E.J. Yang, K. Shin, J.H. Noh, K.-t. Park, B. Hyun, H.-J. Jeong, J.-H. Kim, K.Y. Kim, M. Kim, H.-C. Kim, P.-G. Jang and M.-C. Jang, 2010: Enhanced production of oceanic dimethylsulfide resulting from CO₂-induced grazing activity in a high CO₂ world. *Environmental Science and Technology*, **44(21)**, 8140-8143.
- Kimura, R., H. Takami, T. Ono, T. Onitsuka and Y. Nojiri, 2011: Effects of elevated pCO₂ on the early development of the commercially important gastropod, Ezo abalone *Haliotis discus hannai*. *Fisheries Oceanography*, **20(5)**, 357-366.
- King, A.L., S.A. Sañudo-Wilhelmy, K. Leblanc, D.A. Hutchins and F. Fu, 2011: CO₂ and vitamin B₁₂ interactions determine bioactive trace metal requirements of a subarctic Pacific diatom. *ISME Journal*, **5(8)**, 1388-1396.
- Kline, D.I., L. Teneva, K. Schneider, T. Miard, A. Chai, M. Marker, K. Headley, B. Opdyke, M. Nash, M. Valetich, J.K. Caves, B.D. Russell, S.D. Connell, B.J. Kirkwood, P. Brewer, E. Peltzer, J. Silverman, K. Caldeira, R.B. Dunbar, J.R. Koseff, S.G. Monismith, B.G. Mitchell, S. Dove and O. Hoegh-Guldberg, 2012: A short-term in situ CO₂ enrichment experiment on Heron Island (GBR). *Scientific Reports*, **2**, Article number: 413, doi:10.1038/srep00413.
- Kranz, S., M. Eichner and B. Rost, 2011: Interactions between CCM and N₂ fixation in *Trichodesmium*. *Photosynthesis Research*, **109(1-3)**, 73-84.
- Kranz, S.A., D. Sültemeyer, K.-U. Richter and B. Rost, 2009: Carbon acquisition by *Trichodesmium*: the effect of pCO₂ and diurnal changes. *Limnology and Oceanography*, **54**, 548-559.
- Kranz, S.A., O. Levitan, K.U. Richter, O. Prasil, I. Berman-Frank and B. Rost, 2010: Combined effects of CO₂ and light on the N₂-fixing cyanobacterium *Trichodesmium* IMS101: physiological responses. *Plant Physiology*, **154(1)**, 334-345.
- Kremp, A., A. Godhe, J. Egardt, S. Dupont, S. Suikkanen, S. Casabianca and A. Penna, 2012: Intraspecific variability in the response of bloom-forming marine microalgae to changed climate conditions. *Ecology and Evolution*, **2(6)**, 1195-1207.
- Krief, S., E.J. Hendy, M. Fine, R. Yam, A. Meibom, G.L. Foster and A. Shemesh, 2010: Physiological and isotopic responses of scleractinian corals to ocean acidification. *Geochimica et Cosmochimica Acta*, **74(17)**, 4988-5001.
- Kübler, J.E., A.M. Johnston and J.A. Raven, 1999: The effects of reduced and elevated CO₂ and O₂ on the seaweed *Lomentaria articulate*. *Plant, Cell and Environment*, **22**, 1303-1310.
- Kuffner, I.B., A.J. Andersson, P.L. Jokiel, K.u.S. Rodgers and F.T. Mackenzie, 2007: Decreased abundance of crustose coralline algae due to ocean acidification. *Nature Geoscience*, **1(2)**, 114-117.
- Kurihara, H. and Y. Shirayama, 2004: Effects of increased atmospheric CO₂ on sea urchin early development. *Marine Ecology Progress Series*, **274**, 161-169.
- Kurihara, H. and A. Ishimatsu, 2008: Effects of high CO₂ seawater on the copepod (*Acartia tsuensis*) through all life stages and subsequent generations. *Marine Pollution Bulletin*, **56(6)**, 1086-1090.
- Kurihara, H., S. Shimode and Y. Shirayama, 2004: Effects of raised CO₂ concentration on the egg production rate and early development of two marine copepods (*Acartia steueri* and *Acartia erythraea*). *Marine Pollution Bulletin*, **49(9-10)**, 721-727.
- Kurihara, H., S. Shimode and Y. Shirayama, 2004: Sub-lethal effects of elevated concentration of CO₂ on planktonic copepods and sea urchins. *Journal of Oceanography*, **60**, 743-750.
- Kurihara, H., S. Kato and A. Ishimatsu, 2007: Effects of increased seawater pCO₂ on early development of the oyster *Crassostrea gigas*. *Aquatic Biology*, **1(1)**, 91-98.
- Kurihara, H., T. Asai, S. Kato and A. Ishimatsu, 2008: Effects of elevated pCO₂ on early development in the mussel *Mytilus galloprovincialis*. *Aquatic Biology*, **4(3)**, 225-233.
- Kurihara, H., Y. Takano, D. Kurokawa and K. Akasaka, 2012: Ocean acidification reduces biomineralization-related gene expression in the sea urchin, *Hemicentrotus pulcherrimus*. *Marine Biology*, **159(12)**, 2819-2826.
- Kurihara, H., M. Matsui, H. Furukawa, M. Hayashi and A. Ishimatsu, 2008: Long-term effects of predicted future seawater CO₂ conditions on the survival and growth of the marine shrimp *Palaemon pacificus*. *Journal of Experimental Marine Biology and Ecology*, **367(1)**, 41-46.
- Kurihara, H., R. Yin, G.N. Nishihara, K. Soyano and A. Ishimatsu, 2013: Effect of ocean acidification on growth, gonad development and physiology of the sea urchin *Hemicentrotus pulcherrimus*. *Aquatic Biology*, **18(3)**, 281-292.
- Lacoue-Labarthe, T., E. Réveillac, F. Oberhänsli, J.L. Teyssié, R. Jeffree and J.-P. Gattuso, 2011: Effects of ocean acidification on trace element accumulation in the early-life stages of squid *Loligo vulgaris*. *Aquatic Toxicology*, **105(1-2)**, 166-176.
- Lacoue-Labarthe, T., S. Martin, F. Oberhänsli, J.L. Teyssié, S. Markich, R. Jeffree and P. Bustamante, 2009: Effects of increased pCO₂ and temperature on trace element (Ag, Cd and Zn) bioaccumulation in the eggs of the common cuttlefish, *Sepia officinalis*. *Biogeosciences*, **6(11)**, 2561-2573.
- Lacoue-Labarthe, T., S. Martin, F. Oberhänsli, J.-L. Teyssié, R. Jeffree, J.-P. Gattuso and P. Bustamante, 2012: Temperature and pCO₂ effect on the bioaccumulation of radionuclides and trace elements in the eggs of the common cuttlefish, *Sepia officinalis*. *Journal of Experimental Marine Biology and Ecology*, **413**, 45-49.
- Lane, A.C., J. Mukherjee, V.B.S. Chan and V. Thyagarajan, 2013: Decreased pH does not alter metamorphosis but compromises juvenile calcification of the tube worm *Hydroides elegans*. *Marine Biology*, **160(8)**, 1983-1993.
- Langer, G. and M. Bode, 2011: CO₂ mediation of adverse effects of seawater acidification in *Calcidiscus leptoporus*. *Geochemistry Geophysics Geosystems*, **12(5)**, Q05001, doi: 10.1029/2010GC003393.
- Langer, G., G. Nehrke, I. Probert, J. Ly and P. Ziveri, 2009: Strain-specific responses of *Emiliania huxleyi* to changing seawater carbonate chemistry. *Biogeosciences*, **6(11)**, 4361-4383.
- Langer, G., M. Geisen, K.-H. Baumann, J. Kläs, U. Riebesell, S. Thoms and J.R. Young, 2006: Species-specific responses of calcifying algae to changing seawater carbonate chemistry. *Geochemistry Geophysics Geosystems*, **7(9)**, Q09006, doi: 10.1029/2005GC001227.
- Lannig, G., S. Eilers, H.-O. Pörtner, I.M. Sokolova and C. Bock, 2010: Impact of ocean acidification on energy metabolism of oyster, *Crassostrea gigas* – changes in metabolic pathways and thermal response. *Marine Drugs*, **8(8)**, 2318-2339.
- Law, C.S., E. Breitbart, L.J. Hoffmann, C.M. McGraw, R.J. Langlois, J. LaRoche, A. Marriner and K.A. Safi, 2012: No stimulation of nitrogen fixation by non-filamentous diazotrophs under elevated CO₂ in the South Pacific. *Global Change Biology*, **18(10)**, 3004-3014.
- Lee, K.S., J. Kita and A. Ishimatsu, 2003: Effects of lethal levels of environmental hypercapnia on cardiovascular and blood-gas status in yellowtail, *Seriola quinqueradiata*. *Zoological Science*, **20(4)**, 417-422.
- Lefebvre, S.C., I. Benner, J.H. Stillman, A.E. Parker, M.K. Drake, P.E. Rossignol, K.M. Okimura, T. Komada and E.J. Carpenter, 2012: Nitrogen source and pCO₂ synergistically affect carbon allocation, growth and morphology of the coccolithophore *Emiliania huxleyi*: potential implications of ocean acidification for the carbon cycle. *Global Change Biology*, **18(2)**, 493-503.
- Leonardos, N. and R.J. Geider, 2005: Elevated atmospheric carbon dioxide increases organic carbon fixation by *Emiliania huxleyi* (Haptophyta), under nutrient-limited high-light conditions. *Journal of Phycology*, **41(6)**, 1196-1203.
- Levitan, O., G. Rosenberg, I. Setlik, E. Setlikova, J. Grigel, J. Klepetar, O. Prasil and I. Berman-Frank, 2007: Elevated CO₂ enhances nitrogen fixation and growth in the marine cyanobacterium *Trichodesmium*. *Global Change Biology*, **13(2)**, 531-538.
- Lewis, C., K. Clemow and W. Holt, 2013: Metal contamination increases the sensitivity of larvae but not gametes to ocean acidification in the polychaete *Pomatoceros lamarckii* (Quatrefages). *Marine Biology*, **160(8)**, 2089-2101.
- Li, G. and D.A. Campbell, 2013: Rising CO₂ interacts with growth light and growth rate to alter photosystem II photoinactivation of the coastal diatom *Thalassiosira pseudonana*. *PLoS ONE*, **8(1)**, e55562, doi: 10.1371/journal.pone.0055562.
- Li, W. and K. Gao, 2012: A marine secondary producer respire and feeds more in a high CO₂ ocean. *Marine Pollution Bulletin*, **64(4)**, 699-703.
- Li, W., K. Gao and J. Beardall, 2012: Interactive effects of ocean acidification and nitrogen-limitation on the diatom *Phaeodactylum tricornutum*. *PLoS ONE*, **7(12)**, e51590, doi: 10.1371/journal.pone.0051590.
- Lischka, S. and U. Riebesell, 2012: Synergistic effects of ocean acidification and warming on overwintering pteropods in the Arctic. *Global Change Biology*, **18(12)**, 3517-3528.
- Lischka, S., J. Büdenbender, T. Boxhammer and U. Riebesell, 2011: Impact of ocean acidification and elevated temperatures on early juveniles of the polar shelled pteropod *Limacina helicina*: mortality, shell degradation, and shell growth. *Biogeosciences*, **8(4)**, 919-932.
- Liu, W., X. Huang, J. Lin and M. He, 2012: Seawater acidification and elevated temperature affect gene expression patterns of the pearl oyster *Pinctada fucata*. *PLoS ONE*, **7(3)**, e33679, doi: 10.1371/journal.pone.0033679.
- Liu, Y., J. Xu and K. Gao, 2012: CO₂-driven seawater acidification increases photochemical stress in a green alga. *Phycologia*, **51(5)**, 562-566.

- Lohbeck, K.T., U. Riebesell and T.B.H. Reusch, 2012:** Adaptive evolution of a key phytoplankton species to ocean acidification. *Nature Geoscience*, **5(5)**, 346-351.
- Lohbeck, K.T., U. Riebesell, S. Collins and T.B.H. Reusch, 2013:** Functional genetic divergence in high CO₂ adapted *Emiliana huxleyi* populations. *Evolution*, **67(7)**, 1892-1900.
- Lombardi, C., R. Rodolfo-Metalpa, S. Cocito, M.C. Gambi and P.D. Taylor, 2011:** Structural and geochemical alterations in the Mg calcite bryozoan *Myriapora truncata* under elevated seawater pCO₂ simulating ocean acidification. *Marine Ecology*, **32(2)**, 211-221.
- Lombardi, C., M.C. Gambi, C. Vasapollo, P. Taylor and S. Cocito, 2011:** Skeletal alterations and polymorphism in a Mediterranean bryozoan at natural CO₂ vents. *Zoomorphology*, **130(2)**, 135-145.
- Lombardi, C., S. Cocito, M.C. Gambi, B. Cisterna, F. Flach, P.D. Taylor, K. Keltie, A. Freer and M. Cusack, 2011c:** Effects of ocean acidification on growth, organic tissue and protein profile of the Mediterranean bryozoan *Myriapora truncata*. *Aquatic Biology*, **13(3)**, 251-262.
- Long, C.W., K.M. Swiney and R.J. Foy, 2013:** Effects of ocean acidification on the embryos and larvae of red king crab, *Paralithodes camtschaticus*. *Marine Pollution Bulletin*, **69(1-2)**, 38-47.
- Long, W.C., K.M. Swiney, C. Harris, H.N. Page and R.J. Foy, 2013:** Effects of ocean acidification on juvenile red king crab (*Paralithodes camtschaticus*) and tanner crab (*Chionoecetes bairdi*) growth, condition, calcification, and survival. *PLoS ONE*, **8(4)**, e60959, doi: 10.1371/journal.pone.0060959.
- Losh, J.L., F.M.M. Morel and B.M. Hopkinson, 2012:** Modest increase in the C:N ratio of N-limited phytoplankton in the California Current in response to high CO₂. *Marine Ecology Progress Series*, **468**, 31-42.
- Lunden, J.J., S.E. Georgian and E.E. Cordes, 2013:** Aragonite saturation states at cold-water coral reefs structured by *Lophelia pertusa* in the northern Gulf of Mexico. *Limnology and Oceanography*, **58(1)**, 354-362.
- Maas, A.E., K.F. Wishner and B.A. Seibel, 2012:** The metabolic response of pteropods to ocean acidification reflects natural CO₂-exposure in oxygen minimum zones. *Biogeosciences*, **9(2)**, 747-757.
- Mackenzie, F.T. and C.R. Agegian, 1989:** Biomineralization and tentative links to plate tectonics. In: *Origin, evolution, and modern aspects of biomineralization in plants and animals* [Crick, R.E. (ed.)]. Plenum Press, New York, pp. 11-27.
- Maier, C., P. Watremez, M. Taviani, M.G. Weinbauer and J.-P. Gattuso, 2012:** Calcification rates and the effect of ocean acidification on Mediterranean cold-water corals. *Proceedings of the Royal Society B: Biological Sciences*, **279(1734)**, 1716-1723.
- Maier, C., F. Bils, M.G. Weinbauer, P. Watremez, M.A. Peck and J.-P. Gattuso, 2013:** Respiration of Mediterranean cold-water corals is not affected by ocean acidification as projected for the end of the century. *Biogeosciences*, **10(8)**, 5671-5680.
- Maier, C., A. Schubert, M.M. Berzunza Sánchez, M.G. Weinbauer, P. Watremez and J.-P. Gattuso, 2013:** End of the century pCO₂ levels do not impact calcification in mediterranean cold-water corals. *PLoS ONE*, **8(4)**, e62655, doi: 10.1371/journal.pone.0062655.
- Maneja, R.H., A.Y. Frommel, A.J. Geffen, A. Folkvord, U. Piatkowski, M.Y. Chang and C. Clemmesen, 2013:** Effects of ocean acidification on the calcification of otoliths of larval Atlantic cod *Gadus morhua*. *Marine Ecology Progress Series*, **477**, 251-258.
- Manríquez, P.H., M.E. Jara, M.L. Mardones, J.M. Navarro, R. Torres, M.A. Lardies, C.A. Vargas, C. Duarte, S. Widdicombe, J. Salisbury and N.A. Lagos, 2013:** Ocean acidification disrupts prey responses to predator cues but not net prey shell growth in *Concholepas concholepas* (loco). *PLoS ONE*, **8(7)**, e68643, doi: 10.1371/journal.pone.0068643.
- Marchant, H.K., P. Calosi and J.I. Spicer, 2010:** Short-term exposure to hypercapnia does not compromise feeding, acid-base balance or respiration of *Patella vulgata* but surprisingly is accompanied by radula damage. *Journal of the Marine Biological Association of the United Kingdom*, **90(07)**, 1379-1384.
- Martin, S. and J.-P. Gattuso, 2009:** Response of Mediterranean coralline algae to ocean acidification and elevated temperature. *Global Change Biology*, **15(8)**, 2089-2100.
- Martin, S., S. Cochu, C. Vignot, G. Zimmerman and J.-P. Gattuso, 2013:** One-year experiment on the physiological response of the Mediterranean crustose coralline alga, *Lithophyllum cabiochae*, to elevated pCO₂ and temperature. *Ecology and Evolution*, **3(3)**, 676-693.
- Martin, S., R. Rodolfo-Metalpa, E. Ransome, S. Rowley, M.C. Buia, J.-P. Gattuso and J. Hall-Spencer, 2008:** Effects of naturally acidified seawater on seagrass calcareous epibionts. *Biology Letters*, **4(6)**, 689-692.
- Martin, S., S. Richier, M.-L. Pedrotti, S. Dupont, C. Castejon, Y. Gerakis, M.-E. Kerros, F. Oberhänsli, J.-L. Teysse, R. Jeffree and J.-P. Gattuso, 2011:** Early development and molecular plasticity in the Mediterranean sea urchin *Paracentrotus lividus* exposed to CO₂-driven acidification. *Journal of Experimental Biology*, **214(8)**, 1357-1368.
- Matoo, O.B., A.V. Ivanina, C. Ullstad, E. Beniash and I.M. Sokolova, 2013:** Interactive effects of elevated temperature and CO₂ levels on metabolism and oxidative stress in two common marine bivalves (*Crassostrea virginica* and *Mercenaria mercenaria*). *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*, **164(4)**, 545-553.
- Matson, P.G., P.C. Yu, M.A. Sewell and G.E. Hofmann, 2012:** Development under elevated pCO₂ conditions does not affect lipid utilization and protein content in early life-history stages of the purple sea urchin, *Strongylocentrotus purpuratus*. *The Biological Bulletin*, **223(3)**, 312-327.
- Mayor, D.J., N.R. Everett and K.B. Cook, 2012:** End of century ocean warming and acidification effects on reproductive success in a temperate marine copepod. *Journal of Plankton Research*, **34(3)**, 258-262.
- Mayor, D.J., C. Matthews, K. Cook, A.F. Zuur and S. Hay, 2007:** CO₂-induced acidification affects hatching success in *Calanus finmarchicus*. *Marine Ecology Progress Series*, **350**, 91-97.
- McCarthy, A., S.P. Rogers, S.J. Duffy and D.A. Campbell, 2012:** Elevated carbon dioxide differentially alters the photophysiology of *Thalassiosira pseudonana* (Bacillariophyceae) and *Emiliana huxleyi* (Haptophyta). *Journal of Phycology*, **48(3)**, 635-646.
- McDonald, M.R., J.B. McClintock, C.D. Amsler, D. Rittschof, R.A. Angus, B. Orihuela and K. Lutostanski, 2009:** Effects of ocean acidification over the life history of the barnacle *Amphibalanus amphitrite*. *Marine Ecology Progress Series*, **385**, 179-187.
- McIntyre-Wressnig, A., J.M. Bernhard, D.C. McCorkle and P. Hallock, 2013:** Non-lethal effects of ocean acidification on the symbiont-bearing benthic foraminifer *Amphistegina gibbosa*. *Marine Ecology Progress Series*, **472**, 45-60.
- Medina-Rosas, P., A.M. Szmant and R.F. Whitehead, 2013:** CO₂ enrichment and reduced seawater pH had no effect on the embryonic development of *Acropora palmata* (Anthozoa, Scleractinia). *Invertebrate Reproduction and Development*, **57(2)**, 132-141.
- Melatunan, S., P. Calosi, S.D. Rundle, A.J. Moody and S. Widdicombe, 2011:** Exposure to elevated temperature and pCO₂ reduces respiration rate and energy status in the periwinkle *Littorina littorea*. *Physiological and Biochemical Zoology*, **84(6)**, 583-594.
- Melzner, F., S. Göbel, M. Langenbuch, M.A. Gutowska, H.-O. Pörtner and M. Lucassen, 2009:** Swimming performance in Atlantic Cod (*Gadus morhua*) following long-term (4-12 months) acclimation to elevated seawater p(CO₂). *Aquatic Toxicology*, **92(1)**, 30-37.
- Melzner, F., P. Stange, K. Trubenbach, J. Thomsen, I. Casties, U. Panknin, S.N. Gorb and M.A. Gutowska, 2011:** Food supply and seawater pCO₂ impact calcification and internal shell dissolution in the blue mussel *Mytilus edulis*. *PLoS ONE*, **6(9)**, e24223, doi: 10.1371/journal.pone.0024223.
- Metzger, R., F. Sartoris, M. Langenbuch and H. Pörtner, 2007:** Influence of elevated CO₂ concentrations on thermal tolerance of the edible crab *Cancer pagurus*. *Journal of Thermal Biology*, **32(3)**, 144-151.
- Michaelidis, B., A. Spring and H.-O. Pörtner, 2007:** Effects of long-term acclimation to environmental hypercapnia on extracellular acid-base status and metabolic capacity in Mediterranean fish *Sparus aurata*. *Marine Biology*, **150(6)**, 1417-1429.
- Michaelidis, B., C. Ouzounis, A. Paleras and H.-O. Pörtner, 2005:** Effects of long-term moderate hypercapnia on acid-base balance and growth rate in marine mussels *Mytilus galloprovincialis*. *Marine Ecology Progress Series*, **293**, 109-118.
- Miles, H., S. Widdicombe, J.I. Spicer and J. Hall-Spencer, 2007:** Effects of anthropogenic seawater acidification on acid-base balance in the sea urchin *Psammechinus miliaris*. *Marine Pollution Bulletin*, **54(1)**, 89-96.
- Miller, A.W., A.C. Reynolds, C. Sobrino and G.F. Riedel, 2009:** Shellfish face uncertain future in high CO₂ world: influence of acidification on oyster larvae calcification and growth in estuaries. *PLoS ONE*, **4(5)**, e5661, doi: 10.1371/journal.pone.0005661.
- Miller, G.M., S.-A. Watson, M.I. McCormick and P.L. Munday, 2013:** Increased CO₂ stimulates reproduction in a coral reef fish. *Global Change Biology*, **19(10)**, 3037-3045.
- Miller, G.M., S.-A. Watson, J.M. Donelson, M.I. McCormick and P.L. Munday, 2012:** Parental environment mediates impacts of increased carbon dioxide on a coral reef fish. *Nature Climate Change*, **2(12)**, 858-861.

- Mingliang, Z., F. Jianguang, Z. Jihong, L. Bin, R. Shengmin, M. Yuze and G. Yaping, 2011: Effect of marine acidification on calcification and respiration of *Chlamys farreri*. *Journal of Shellfish Research*, **30**(2), 267-271.
- Moran, D. and J.G. Støttrup, 2011: The effect of carbon dioxide on growth of juvenile Atlantic cod *Gadus morhua* L. *Aquatic Toxicology*, **102**(1-2), 24-30.
- Morita, M., R. Suwa, A. Iguchi, M. Nakamura, K. Shimada, K. Sakai and A. Suzuki, 2010: Ocean acidification reduces sperm flagellar motility in broadcast spawning reef invertebrates. *Zygote*, **18**(2), 103-107.
- Moulin, L., A.I. Catarino, T. Claessens and P. Dubois, 2011: Effects of seawater acidification on early development of the intertidal sea urchin *Paracentrotus lividus* (Lamarck 1816). *Marine Pollution Bulletin*, **62**(1), 48-54.
- Movilla, J., E. Calvo, C. Pelejero, R. Coma, E. Serrano, P. Fernández-Vallejo and M. Ribes, 2012: Calcification reduction and recovery in native and non-native Mediterranean corals in response to ocean acidification. *Journal of Experimental Marine Biology and Ecology*, **438**, 144-153.
- Moya, A., L. Huisman, E.E. Ball, D.C. Hayward, L.C. Grasso, C.M. Chua, H.N. Woo, J.-P. Gattuso, S. Forêt and D.J. Miller, 2012: Whole transcriptome analysis of the coral *Acropora millepora* reveals complex responses to CO₂-driven acidification during the initiation of calcification. *Molecular Ecology*, **21**(10), 2440-2454.
- Müller, M.N., K.G. Schulz and U. Riebesell, 2010: Effects of long-term high CO₂ exposure on two species of coccolithophores. *Biogeosciences*, **7**(3), 1109-1116.
- Munday, P.L., N.E. Crawley and G.E. Nilsson, 2009: Interacting effects of elevated temperature and ocean acidification on the aerobic performance of coral reef fishes. *Marine Ecology Progress Series*, **388**, 235-242.
- Munday, P.L., J.M. Donelson, D.L. Dixon and G.G. Endo, 2009: Effects of ocean acidification on the early life history of a tropical marine fish. *Proceedings of the Royal Society London B: Biological sciences*, **276**(1671), 3275-3283.
- Munday, P.L., V. Hernaman, D.L. Dixon and S.R. Thorrold, 2011: Effect of ocean acidification on otolith development in larvae of a tropical marine fish. *Biogeosciences*, **8**(6), 1631-1641.
- Munday, P.L., M. Gagliano, J.M. Donelson, D.L. Dixon and S.R. Thorrold, 2011: Ocean acidification does not affect the early life history development of a tropical marine fish. *Marine Ecology Progress Series*, **423**, 211-221.
- Munday, P.L., D.L. Dixon, M.I. McCormick, M. Meekan, M.C.O. Ferrari and D.P. Chivers, 2010: Replenishment of fish populations is threatened by ocean acidification. *Proceedings of the National Academy of Sciences of the United States of America*, **107**(29), 12930-12934.
- Munday, P.L., D.L. Dixon, J.M. Donelson, G.P. Jones, M.S. Pratchett, G.V. Devitsina and K.B. Doving, 2009c: Ocean acidification impairs olfactory discrimination and homing ability of a marine fish. *Proceedings of the National Academy of Sciences of the United States of America*, **106**(6), 1848-1852.
- Munday, P.L., M.S. Pratchett, D.L. Dixon, J.M. Donelson, G.G.K. Endo, A.D. Reynolds and R. Knuckey, 2013: Elevated CO₂ affects the behavior of an ecologically and economically important coral reef fish. *Marine Biology*, **160**(8), 2137-2144.
- Nakamura, M. and M. Morita, 2012: Sperm motility of the scleractinian coral *Acropora digitifera* under preindustrial, current, and predicted ocean acidification regimes. *Aquatic Biology*, **15**(3), 299-302.
- Nakamura, M., S. Ohki, A. Suzuki and K. Sakai, 2011: Coral larvae under ocean acidification: survival, metabolism, and metamorphosis. *PLoS ONE*, **6**(1), e14521, doi: 10.1371/journal.pone.0014521.
- Nash, M.C., B.N. Opdyke, U. Troitzsch, B.D. Russell, W.H. Adey, A. Kato, G. Diaz-Pulido, C. Brent, M. Gardner, J. Prichard and D.I. Kline, 2013: Dolomite-rich coralline algae in reefs resist dissolution in acidified conditions. *Nature Climate Change*, **3**(3), 268-272.
- Navarro, J.M., R. Torres, K. Acuña, C. Duarte, P.H. Manriquez, M. Lardies, N.A. Lagos, C. Vargas and V. Aguilera, 2013: Impact of medium-term exposure to elevated pCO₂ levels on the physiological energetics of the mussel *Mytilus chilensis*. *Chemosphere*, **90**(3), 1242-1248.
- Nienhuis, S., A.R. Palmer and C.D. Harley, 2010: Elevated CO₂ affects shell dissolution rate but not calcification rate in a marine snail. *Proceedings of the Royal Society B: Biological Sciences*, **277**(1693), 2553-2558.
- Nilsson, G.E., D.L. Dixon, P. Domenici, M.I. McCormick, C. Sørensen, S.-A. Watson and P.L. Munday, 2012: Near-future carbon dioxide levels alter fish behaviour by interfering with neurotransmitter function. *Nature Climate Change*, **2**, 201-204.
- Noonan, S.H.C., K.E. Fabricius and C. Humphrey, 2013: *Symbiodinium* community composition in scleractinian corals is not affected by life-long exposure to elevated carbon dioxide. *PLoS ONE*, **8**(5), e63985, doi: 10.1371/journal.pone.0063985.
- Nowicki, J.P., G.M. Miller and P.L. Munday, 2012: Interactive effects of elevated temperature and CO₂ on foraging behavior of juvenile coral reef fish. *Journal of Experimental Marine Biology and Ecology*, **412**, 46-51.
- O'Donnell, M.J., L.M. Hammond and G.E. Hofmann, 2009: Predicted impact of ocean acidification on a marine invertebrate: elevated CO₂ alters response to thermal stress in sea urchin larvae. *Marine Biology*, **156**(3), 439-446.
- O'Donnell, M.J., A.E. Todgham, M.A. Sewell, L.M. Hammond, K. Ruggiero, N.A. Fanguie, M.L. Zippay and G.E. Hofmann, 2010: Ocean acidification alters skeletogenesis and gene expression in larval sea urchins. *Marine Ecology Progress Series*, **398**, 157-171.
- Olabarria, C., F. Arenas, R.M. Viejo, I. Gestoso, F. Vaz-Pinto, M. Incera, M. Rubal, E. Cacabelos, P. Veiga and C. Sobrino, 2013: Response of macroalgal assemblages from rockpools to climate change: effects of persistent increase in temperature and CO₂. *Oikos*, **122**(7), 1065-1079.
- Olischläger, M., I. Bartsch, L. Gutow and C. Wiencke, 2012: Effects of ocean acidification on different life-cycle stages of the kelp *Laminaria hyperborea* (Phaeophyceae). *Botanica Marina*, **55**(5), 511-525.
- Olischläger, M., I. Bartsch, L. Gutow and C. Wiencke, 2013: Effects of ocean acidification on growth and physiology of *Ulva lactuca* (Chlorophyta) in a rockpool-scenario. *Phycological Research*, **61**(3), 180-190.
- Padilla-Gamiño, J.L., M.W. Kelly, T.G. Evans and G.E. Hofmann, 2013: Temperature and CO₂ additively regulate physiology, morphology and genomic responses of larval sea urchins, *Strongylocentrotus purpuratus*. *Proceedings of The Royal Society B: Biological Sciences*, **280**(1759), doi: 10.1098/rspb.2013.0155.
- Palacios, S.L. and R.C. Zimmerman, 2007: Response of eelgrass *Zostera marina* to CO₂ enrichment: possible impacts of climate change and potential for remediation of coastal habitats. *Marine Ecology Progress Series*, **344**, 1-13.
- Pansch, C., P. Schlegel and J. Havenhand, 2013: Larval development of the barnacle *Amphibalanus improvisus* responds variably but robustly to near-future ocean acidification. *ICES Journal of Marine Science*, **70**(4), 805-811.
- Parker, L.M., P.M. Ross and W.A. O'Connor, 2010: Comparing the effect of elevated pCO₂ and temperature on the fertilization and early development of two species of oysters. *Marine Biology*, **157**(11), 2435-2452.
- Parker, L.M., P.M. Ross and W.A. O'Connor, 2011: Populations of the Sydney rock oyster, *Saccostrea glomerata*, vary in response to ocean acidification. *Marine Biology*, **158**(3), 689-697.
- Parker, L.M., P.M. Ross, W.A. O'Connor, L. Borysko, D.A. Raftos and H.-O. Pörtner, 2012: Adult exposure influences offspring response to ocean acidification in oysters. *Global Change Biology*, **18**, 82-92.
- Pedrotti, M.L., S. Fiorini, M.-E. Kerros, J.J. Middelburg and J.-P. Gattuso, 2012: Variable production of transparent exopolymeric particles by haploid and diploid life stages of coccolithophores grown under different CO₂ concentrations. *Journal of Plankton Research*, **34**(5), 388-398.
- Pettit, L.R., M.B. Hart, A.N. Medina-Sánchez, C.W. Smart, R. Rodolfo-Metalpa, J.M. Hall-Spencer and R.M. Prol-Ledesma, 2013: Benthic foraminifera show some resilience to ocean acidification in the northern Gulf of California, Mexico. *Marine Pollution Bulletin*, **73**(2), 452-462.
- Pistevos, J.C.A., P. Calosi, S. Widdicombe and J.D.D. Bishop, 2011: Will variation among genetic individuals influence species responses to global climate change? *Oikos*, **120**(5), 675-689.
- Place, S.P. and B.W. Smith, 2012: Effects of seawater acidification on cell cycle control mechanisms in *Strongylocentrotus purpuratus* embryos. *PLoS ONE*, **7**(3), e34068, doi: 10.1371/journal.pone.0034068.
- Putnam, H.M., A.B. Mayfield, T.Y. Fan, C.S. Chen and R.D. Gates, 2013: The physiological and molecular responses of larvae from the reef-building coral *Pocillopora damicornis* exposed to near-future increases in temperature and pCO₂. *Marine Biology*, **160**(8), 2157-2173.
- Ragazzola, F., L.C. Foster, A. Form, P.S.L. Anderson, T.H. Hansteen and J. Fietzke, 2012: Ocean acidification weakens the structural integrity of coralline algae. *Global Change Biology*, **18**(9), 2804-2812.
- Range, P., M.A. Chicharo, R. Ben-Hamadou, D. Pilo, D. Matias, S. Joaquim, A.P. Oliveira and L. Chicharo, 2011: Calcification, growth and mortality of juvenile clams *Ruditapes decussatus* under increased pCO₂ and reduced pH: Variable responses to ocean acidification at local scales? *Journal of Experimental Marine Biology and Ecology*, **396**(2), 177-184.
- Range, P., D. Piló, R. Ben-Hamadou, M.A. Chicharo, D. Matias, S. Joaquim, A.P. Oliveira and L. Chicharo, 2012: Seawater acidification by CO₂ in a coastal lagoon environment: Effects on life history traits of juvenile mussels *Mytilus galloprovincialis*. *Journal of Experimental Marine Biology and Ecology*, **424-425**, 89-98.

- Reinfelder, J.R.**, 2012: Carbon dioxide regulation of nitrogen and phosphorus in four species of marine phytoplankton. *Marine Ecology Progress Series*, **466**, 57-67.
- Renegar, D.A.** and **B.M. Riegl**, 2005: Effect of nutrient enrichment and elevated CO₂ partial pressure on growth rate of Atlantic scleractinian coral *Acropora cervicornis*. *Marine Ecology Progress Series*, **293**, 69-76.
- Reuter, K.E.**, **K.E. Lotterhos**, **R.N. Crim**, **C.A. Thompson** and **C.D.G. Harley**, 2011: Elevated pCO₂ increases sperm limitation and risk of polyspermy in the red sea urchin *Strongylocentrotus franciscanus*. *Global Change Biology*, **17(1)**, 163-171.
- Reymond, C.E.**, **A. Lloyd**, **D.I. Kline**, **S.G. Dove** and **J.M. Pandolfi**, 2013: Decline in growth of foraminifer *Marginopora rossi* under eutrophication and ocean acidification scenarios. *Global Change Biology*, **19(1)**, 291-302.
- Reynaud, S.**, **N. Leclercq**, **S. Romaine-Lioud**, **C. Ferrier-Pagès**, **J. Jaubert** and **J.-P. Gattuso**, 2003: Interacting effects of CO₂ partial pressure and temperature on photosynthesis and calcification in a scleractinian coral. *Global Change Biology*, **9**, 1660-1668.
- Ricevuto, E.**, **M. Lorenti**, **F.P. Patti**, **M.B. Scipione** and **M.C. Gambi**, 2012: Temporal trends of benthic invertebrate settlement along a gradient of ocean acidification at natural CO₂ vents (Tyrrhenian sea) *Biologia Marina Mediterranea*, **19(1)**, 49-52.
- Richier, S.**, **S. Fiorini**, **M.-E. Kerros**, **P. von Dassow** and **J.-P. Gattuso**, 2011: Response of the calcifying coccolithophore *Emiliana huxleyi* to low pH/high pCO₂: from physiology to molecular level. *Marine Biology*, **158(3)**, 551-560.
- Rickaby, R.E.M.**, **J. Henderiks** and **J.N. Young**, 2010: Perturbing phytoplankton: response and isotopic fractionation with changing carbonate chemistry in two coccolithophore species. *Climate of the Past*, **6(6)**, 771-785.
- Riebesell, U.**, **I. Zondervan**, **B. Rost**, **P.D. Tortell**, **R.E. Zeebe** and **F.M.M. Morel**, 2000: Reduced calcification of marine plankton in response to increased atmospheric CO₂. *Nature*, **407(6802)**, 364-367.
- Riebesell, U.**, **K.G. Schulz**, **R.G.J. Bellerby**, **M. Botros**, **P. Fritsche**, **M. Meyerhöfer**, **C. Neill**, **G. Nondal**, **A. Oschlies**, **J. Wohlers** and **E. Zöllner**, 2007: Enhanced biological carbon consumption in a high CO₂ ocean. *Nature*, **450(7169)**, 545-548.
- Ries, J.B.**, 2011: Skeletal mineralogy in a high-CO₂ world. *Journal of Experimental Marine Biology and Ecology*, **403(1-2)**, 54-64.
- Ries, J.B.**, **A.L. Cohen** and **D.C. McCorkle**, 2009: Marine calcifiers exhibit mixed responses to CO₂-induced ocean acidification. *Geology*, **37(12)**, 1131-1134.
- Ries, J.B.**, **A.L. Cohen** and **D.C. McCorkle**, 2010: A nonlinear calcification response to CO₂-induced ocean acidification by the coral *Oculina arbuscula*. *Coral Reefs*, **29(3)**, 661-674.
- Robbins, L.L.**, **P.O. Knorr** and **P. Hallock**, 2009: Response of *Halimeda* to ocean acidification: field and laboratory evidence. *Biogeosciences Discussions*, **6(3)**, 4895-4918.
- Rodolfo-Metalpa, R.**, **S. Martin**, **C. Ferrier-Pagès** and **J.-P. Gattuso**, 2010: Response of the temperate coral *Cladocora caespitosa* to mid- and long-term exposure to pCO₂ and temperature levels projected for the year 2100 AD. *Biogeosciences*, **7**, 289-300.
- Rodolfo-Metalpa, R.**, **C. Lombardi**, **S. Cocito**, **J.M. Hall-Spencer** and **M.C. Gambi**, 2010: Effects of ocean acidification and high temperatures on the bryozoan *Myriapora truncata* at natural CO₂ vents. *Marine Ecology*, **31**, 447-456.
- Rodolfo-Metalpa, R.**, **F. Houlbrèque**, **É. Tambutté**, **F. Boisson**, **C. Baggini**, **F.P. Patti**, **R. Jeffree**, **M. Fine**, **A. Foggio**, **J.-P. Gattuso** and **J.M. Hall-Spencer**, 2011: Coral and mollusc resistance to ocean acidification adversely affected by warming. *Nature Climate Change*, **1(6)**, 308-312.
- Rokitta, S.D.**, **U. John** and **B. Rost**, 2012: Ocean acidification affects redox-balance and ion-homeostasis in the life-cycle stages of *Emiliana huxleyi*. *PLoS ONE*, **7(12)**, e52212, doi: 10.1371/journal.pone.0052212.
- Roleda, M.Y.**, **J.N. Morris**, **C.M. McGraw** and **C.L. Hurd**, 2012: Ocean acidification and seaweed reproduction: increased CO₂ ameliorates the negative effect of lowered pH on meiospore germination in the giant kelp *Macrocystis pyrifera* (Laminariales, Phaeophyceae). *Global Change Biology*, **18(3)**, 854-864.
- Rosa, R.** and **B.A. Seibel**, 2008: Synergistic effects of climate-related variables suggest future physiological impairment in a top oceanic predator. *Proceedings of the National Academy of Sciences of the United States of America*, **105(52)**, 20776-20780.
- Rossoll, D.**, **R. Bermúdez**, **H. Hauss**, **K.G. Schulz**, **U. Riebesell**, **U. Sommer** and **M. Winder**, 2012: Ocean acidification-induced food quality deterioration constrains trophic transfer. *PLoS ONE*, **7(4)**, e34737, doi: 10.1371/journal.pone.0034737.
- Russell, B.D.**, **C.A. Passarelli** and **S.D. Connell**, 2011: Forecasted CO₂ modifies the influence of light in shaping benthic habitat. *Journal of Phycology*, **47(4)**, 744-752.
- Russell, B.D.**, **J.-A.I. Thompson**, **L.J. Falkenberg** and **S.D. Connell**, 2009: Synergistic effects of climate change and local stressors: CO₂ and nutrient-driven change in subtidal rocky habitats. *Global Change Biology*, **15**, 2153-2162.
- Saba, G.K.**, **O. Schofield**, **J.J. Torres**, **E.H. Ombres** and **D.K. Steinberg**, 2012: Increased feeding and nutrient excretion of adult Antarctic krill, *Euphausia superba*, exposed to enhanced carbon dioxide (CO₂). *PLoS ONE*, **7(12)**, e52224, doi: 10.1371/journal.pone.0052224.
- Salma, U.**, **M.H. Uddowla**, **G.-H. Lee**, **Y.-M. Yeo** and **H.-W. Kim**, 2012: Effects of pH change by CO₂ induction and salinity on the hatching rate of *Artemia franciscana*. *Fisheries and Aquatic Sciences*, **15(2)**, 177-181.
- Sarker, M.Y.**, **I. Bartsch**, **M. Olischläger**, **L. Gutow** and **C. Wiencke**, 2013: Combined effects of CO₂, temperature, irradiance and time on the physiological performance of *Chondrus crispus* (Rhodophyta). *Botanica Marina*, **56(1)**, 63-74.
- Schalkhauser, B.**, **C. Bock**, **K. Stemmer**, **T. Brey**, **H.-O. Pörtner** and **G. Lannig**, 2013: Impact of ocean acidification on escape performance of the king scallop, *Pecten maximus*, from Norway. *Marine Biology*, **160(8)**, 1995-2006.
- Schiffer, M.**, **L. Harms**, **H.-O. Pörtner**, **M. Lucassen**, **F.C. Mark** and **D. Storch**, 2013: Tolerance of *Hyas araneus* zoea I larvae to elevated seawater PCO₂ despite elevated metabolic costs. *Marine Biology*, **160(8)**, 1943-1953.
- Schlegel, P.**, **J.N. Havenhand**, **M.R. Gillings** and **J.E. Williamson**, 2012: Individual variability in reproductive success determines winners and losers under ocean acidification: a case study with sea urchins. *PLoS ONE*, **7(12)**, e53118, doi: 10.1371/journal.pone.0053118.
- Schram, J.B.**, **J.B. McClintock**, **R.A. Angus** and **J.M. Lawrence**, 2011: Regenerative capacity and biochemical composition of the sea star *Luidia clathrata* (Say) (Echinodermata: Asteroidea) under conditions of near-future ocean acidification. *Journal of Experimental Marine Biology and Ecology*, **407(2)**, 266-274.
- Schulz, K.G.**, **U. Riebesell**, **R.G.J. Bellerby**, **H. Biswas**, **M. Meyerhöfer**, **M.N. Muller**, **J.K. Egge**, **J.C. Nejtgaard**, **C. Neill**, **J. Wohlers** and **E. Zöllner**, 2008: Build-up and decline of organic matter during PeECE III. *Biogeosciences*, **5(3)**, 707-718.
- Sciandra, A.**, **J. Harlay**, **D. Lefèvre**, **R. Lemée**, **P. Rimmelin**, **M. Denis** and **J.-P. Gattuso**, 2003: Response of coccolithophorid *Emiliana huxleyi* to elevated partial pressure of CO₂ under nitrogen limitation. *Marine Ecology Progress Series*, **261**, 111-122.
- Seibel, B.A.**, **A.E. Maas** and **H.M. Dierssen**, 2012: Energetic plasticity underlies a variable response to ocean acidification in the pteropod, *Limacina helicina antarctica*. *PLoS ONE*, **7(4)**, e30464, doi: 10.1371/journal.pone.0030464.
- Semesi, I.S.**, **S. Beer** and **M. Björk**, 2009: Seagrass photosynthesis controls rates of calcification and photosynthesis of calcareous macroalgae in a tropical seagrass meadow. *Marine Ecology Progress Series*, **382**, 41-47.
- Semesi, I.S.**, **K. Kangwe** and **M. Björk**, 2009: Alterations in seawater pH and CO₂ affect calcification and photosynthesis in the tropical coralline alga, *Hydrolithon* sp. (Rhodophyta). *Estuarine, Coastal and Shelf Science*, **84**, 337-341.
- Sheppard-Brennand, H.**, **N. Soars**, **S.A. Dworjanyan**, **A.R. Davis** and **M. Byrne**, 2010: Impact of ocean warming and ocean acidification on larval development and calcification in the sea urchin *Tripneustes gratilla*. *PLoS ONE*, **5(6)**, e11372, doi: 10.1371/journal.pone.0011372.
- Shi, D.**, **Y. Xu** and **F.M.M. Morel**, 2009: Effects of the pH/pCO₂ control method on medium chemistry and phytoplankton growth. *Biogeosciences*, **6(7)**, 1199-1207.
- Shirayama, Y.** and **H. Thornton**, 2005: Effect of increased atmospheric CO₂ on shallow water marine benthos. *Journal of Geophysical Research*, **110(C9)**, C09S08, doi: 10.1029/2004JC002618.
- Simpson, S.D.**, **P.L. Munday**, **M.L. Wittenrich**, **R. Manassa**, **D.L. Dixon**, **M. Gagliano** and **H.Y. Yan**, 2011: Ocean acidification erodes crucial auditory behaviour in a marine fish. *Biology Letters*, **7(6)**, 917-920.
- Small, D.**, **P. Calosi**, **D. White**, **J.I. Spicer** and **S. Widdicombe**, 2010: Impact of medium-term exposure to CO₂ enriched seawater on the physiological functions of the velvet swimming crab *Necora puber*. *Aquatic Biology*, **10(1)**, 11-21.
- Spicer, J.I.** and **S. Widdicombe**, 2012: Acute extracellular acid-base disturbance in the burrowing sea urchin *Brissopsis lyrifera* during exposure to a simulated CO₂ release. *Science of The Total Environment*, **427-428**, 203-207.
- Spicer, J.I.**, **S. Widdicombe**, **H.R. Needham** and **J.A. Berge**, 2011: Impact of CO₂-acidified seawater on the extracellular acid-base balance of the northern sea urchin *Strongylocentrotus droebachiensis*. *Journal of Experimental Marine Biology and Ecology*, **407(1)**, 19-25.
- Spielmeier, A.** and **G. Pohnert**, 2012: Influence of temperature and elevated carbon dioxide on the production of dimethylsulfoniopropionate and glycine betaine by marine phytoplankton. *Marine Environmental Research*, **73(0)**, 62-69.

- Strobel, A., M. Graeve, H.-O. Pörtner and F.C. Mark, 2013: Mitochondrial acclimation capacities to ocean warming and acidification are limited in the Antarctic nototheniid fish, *Notothenia rossii* and *Lepidonotothen squamifrons*. *PLoS ONE*, **8(7)**, e68865.
- Strobel, A., S. Bennecke, E. Leo, K. Mintenbeck, H.-O. Pörtner and F. Mark, 2012: Metabolic shifts in the Antarctic fish *Notothenia rossii* in response to rising. *Frontiers in Zoology*, **9**, doi:10.1186/1742-9994-9-28.
- Stumpp, M., S. Dupont, M.C. Thorndyke and F. Melzner, 2011: CO₂ induced seawater acidification impacts sea urchin larval development II: Gene expression patterns in pluteus larvae. *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*, **160(3)**, 320-330.
- Stumpp, M., J. Wren, F. Melzner, M.C. Thorndyke and S.T. Dupont, 2011: 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 A: Molecular and Integrative Physiology*, **160(3)**, 331-340.
- Stumpp, M., K. Trübenbach, D. Brennecke, M.Y. Hu and F. Melzner, 2012: Resource allocation and extracellular acid-base status in the sea urchin *Strongylocentrotus droebachiensis* in response to CO₂ induced seawater acidification. *Aquatic Toxicology*, **110-111**, 194-207.
- Stumpp, M., M.Y. Hu, F. Melzner, M.A. Gutowska, N. Dorey, N. Himmerkus, W.C. Holtmann, S.T. Dupont, M.C. Thorndyke and M. Bleich, 2012: 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*, **109(44)**, 18192-18197.
- Suárez-Álvarez, S., J.L. Gómez-Pinchetti and G. García-Reina, 2012: Effects of increased CO₂ levels on growth, photosynthesis, ammonium uptake and cell composition in the macroalga *Hypnea spinella* (Gigartinales, Rhodophyta). *Journal of Applied Phycology*, **24(4)**, 815-823.
- Sugie, K. and T. Yoshimura, 2013: Effects of pCO₂ and iron on the elemental composition and cell geometry of the marine diatom *Pseudo-nitzschia pseudodelicatissima* (Bacillariophyceae). *Journal of Phycology*, **49(3)**, 475-488.
- Sun, J., D.A. Hutchins, Y. Feng, E.L. Seubert, D.A. Caron and F.-X. Fu, 2011: Effects of changing pCO₂ and phosphate availability on domoic acid production and physiology of the marine harmful bloom diatom *Pseudo-nitzschia multiseries*. *Limnology and Oceanography*, **56(3)**, 829-840.
- Suwa, R., M. Nakamura, M. Morita, K. Shimada, A. Iguchi, K. Sakai and A. Suzuki, 2009: Effects of acidified seawater on early life stages of scleractinian corals (Genus *Acropora*). *Fisheries Science*, **76(1)**, 93-99.
- Suykens, K., B. Delille, L. Chou, C. De Bodt, J. Harlay and A.V. Borges, 2010: Dissolved inorganic carbon dynamics and air-sea carbon dioxide fluxes during coccolithophore blooms in the northwest European continental margin (northern Bay of Biscay). *Global Biogeochemical Cycles*, **24(3)**, GB3022, doi: 10.1029/2009GB003730.
- Takahashi, A. and H. Kurihara, 2013: Ocean acidification does not affect the physiology of the tropical coral *Acropora digitifera* during a 5-week experiment. *Coral Reefs*, **32(1)**, 305-314.
- Talmage, S.C. and C.J. Gobler, 2009: The effects of elevated carbon dioxide concentrations on the metamorphosis, size, and survival of larval hard clams (*Merccenaria mercenaria*), bay scallops (*Argopecten irradians*), and Eastern oysters (*Crassostrea virginica*). *Limnology and Oceanography*, **54(6)**, 2072-2080.
- Talmage, S.C. and C.J. Gobler, 2010: Effects of past, present, and future ocean carbon dioxide concentrations on the growth and survival of larval shellfish. *Proceedings of the National Academy of Sciences of the United States of America*, **107(40)**, 17246-17251.
- Talmage, S.C. and C.J. Gobler, 2011: Effects of elevated temperature and carbon dioxide on the growth and survival of larvae and juveniles of three species of Northwest Atlantic bivalves. *PLoS ONE*, **6(10)**, doi: 10.1371/journal.pone.0026941.
- Talmage, S.C. and C.J. Gobler, 2012: Effects of CO₂ and the harmful alga *Aureococcus anophagefferens* on growth and survival of oyster and scallop larvae. *Marine Ecology Progress Series*, **464**, 121-134.
- Tatters, A.O., F.-X. Fu and D.A. Hutchins, 2012: High CO₂ and silicate limitation synergistically increase the toxicity of *Pseudo-nitzschia fraudulenta*. *PLoS ONE*, **7(2)**, e32116, doi: 10.1371/journal.pone.0032116.
- Tatters, A.O., A. Schmetzer, F. Fu, A.Y.A. Lie, D.A. Caron and D.A. Hutchins, 2013: Short-versus long-term responses to changing CO₂ in a coastal dinoflagellate bloom: implications for interspecific competitive interactions and community structure. *Evolution*, **67(7)**, 1879-1891.
- Thiyagarajan, V. and G.W.K. Ko, 2012: Larval growth response of the Portuguese oyster (*Crassostrea angulata*) to multiple climate change stressors. *Aquaculture*, **370-371**, 90-95.
- Thomsen, J., I. Casties, C. Pansch, A. Körtzinger and F. Melzner, 2013: Food availability outweighs ocean acidification effects in juvenile *Mytilus edulis*: laboratory and field experiments. *Global Change Biology*, **19(4)**, 1017-1027.
- Thomsen, J., M.A. Gutowska, J. Saphörster, A. Heinemann, K. Trübenbach, J. Fietzke, C. Hiebenthal, A. Eisenhauer, A. Körtzinger, M. Wahl and F. Melzner, 2010: Calcifying invertebrates succeed in a naturally CO₂ enriched coastal habitat but are threatened by high levels of future acidification. *Biogeosciences*, **7**, 3879-3891.
- Timmins-Schiffman, E., M.J. O'Donnell, C.S. Friedman and S.B. Roberts, 2013: Elevated pCO₂ causes developmental delay in early larval Pacific oysters, *Crassostrea gigas*. *Marine Biology*, **160(8)**, 1973-1982.
- Todgham, A.E. and G.E. Hofmann, 2009: Transcriptomic response of sea urchin larvae *Strongylocentrotus purpuratus* to CO₂-driven seawater acidification. *Journal of Experimental Biology*, **212(16)**, 2579-2594.
- Tomanek, L., M.J. Zuzow, A.V. Ivanina, E. Beniash and I.M. Sokolova, 2011: Proteomic response to elevated pCO₂ level in eastern oysters, *Crassostrea virginica*: evidence for oxidative stress. *Journal of Experimental Biology*, **214(11)**, 1836-1844.
- Torstensson, A., M. Chierici and A. Wulff, 2012: The influence of increased temperature and carbon dioxide levels on the benthic/sea ice diatom *Navicula directa*. *Polar Biology*, **35(2)**, 205-214.
- Tortell, P.D., G.R. DiTullio, D.M. Sigman and F.M.M. Morel, 2002: CO₂ effects on taxonomic composition and nutrient utilization in an Equatorial Pacific phytoplankton assemblage. *Marine Ecology Progress Series*, **236**, 37-43.
- Tremblay, P., M. Fine, J.F. Maguer, R. Grover and C. Ferrier-Pagès, 2013: Photosynthate translocation increases in response to low seawater pH in a coral–dinoflagellate symbiosis. *Biogeosciences*, **10(6)**, 3997-4007.
- Tseng, Y.-C., M.Y. Hu, M. Stumpp, L.-Y. Lin, F. Melzner and P.-P. Hwang, 2013: CO₂-driven seawater acidification differentially affects development and molecular plasticity along life history of fish (*Oryzias latipes*). *Comparative Biochemistry and Physiology A: Molecular and Integrative Physiology*, **165(2)**, 119-130.
- Uthicke, S. and K.E. Fabricius, 2012: Productivity gains do not compensate for reduced calcification under near-future ocean acidification in the photosynthetic benthic foraminifer species *Marginopora vertebralis*. *Global Change Biology*, **18(9)**, 2781-2791.
- Uthicke, S., P. Momigliano and K.E. Fabricius, 2013: High risk of extinction of benthic foraminifera in this century due to ocean acidification. *Scientific Reports*, **3**, Article number: 1769, doi:10.1038/srep01769.
- Van de Waal, D.B., U. John, P. Ziveri, G.-J. Reichart, M. Hoins, A. Sluijs and B. Rost, 2013: Ocean acidification reduces growth and calcification in a marine dinoflagellate. *PLoS ONE*, **8(6)**, e65987, doi: 10.1371/journal.pone.0065987.
- Van de Waal, D.B., J.M. Verspagen, J.F. Finke, V. Vournazou, A.K. Immers, W.E. Kardinaal, L. Tonk, S. Becker, E. Van Donk, P.M. Visser and J. Huisman, 2011: Reversal in competitive dominance of a toxic versus non-toxic cyanobacterium in response to rising CO₂. *ISME Journal*, **5(9)**, 1438-1450.
- Vargas, C.A., M. de la Hoz, V. Aguilera, V.S. Martín, P.H. Manríquez, J.M. Navarro, R. Torres, M.A. Lardies and N.A. Lagos, 2013: CO₂-driven ocean acidification reduces larval feeding efficiency and changes food selectivity in the mollusk *Concholepas concholepas*. *Journal of Plankton Research*, **35(5)**, 1059-1068.
- Vehmaa, A., A. Brutemark and J. Engström-Öst, 2012: Maternal effects may act as an adaptation mechanism for copepods facing pH and temperature changes. *PLoS ONE*, **7(10)**, e48538.
- Venn, A.A., E. Tambutté, M. Holcomb, J. Laurent, D. Allemand and S. Tambutté, 2013: Impact of seawater acidification on pH at the tissue–skeleton interface and calcification in reef corals. *Proceedings of the National Academy of Sciences of the United States of America*, **110(5)**, 1634-1639.
- Vetter, E.W. and C.R. Smith, 2005: Insights into the ecological effects of deep ocean CO₂ enrichment: The impacts of natural CO₂ venting at Loihi seamount on deep sea scavengers. *Journal of Geophysical Research-Oceans*, **110**, C09S13, doi: 10.1029/2004JC002617.
- Vogel, N. and S. Uthicke, 2012: Calcification and photobiology in symbiont-bearing benthic foraminifera and responses to a high CO₂ environment. *Journal of Experimental Marine Biology and Ecology*, **424-425**, 15-24.
- Waldbusser, G., E. Voigt, H. Bergschneider, M. Green and R. Newell, 2011: Biocalcification in the eastern oyster (*Crassostrea virginica*) in relation to long-term trends in Chesapeake Bay pH. *Estuaries and Coasts*, **34(2)**, 221-231.

- Waldbusser, G.G., H. Bergschneider and M.A. Green, 2010: Size-dependent pH effect on calcification in post-larval hard clam *Mercenaria* spp. *Marine Ecology Progress Series*, **417**, 171-182.
- Walther, K., K. Anger and H.-O. Pörtner, 2010: Effects of ocean acidification and warming on the larval development of the spider crab *Hyas araneus* from different latitudes (54° vs. 79°N). *Marine Ecology Progress Series*, **417**, 159-170.
- Walther, K., F.J. Sartoris and H.-O. Pörtner, 2011: Impacts of temperature and acidification on larval calcification of the spider crab *Hyas araneus* from different latitudes (54° vs. 79°N). *Marine Biology*, **158**(9), 2043-2053.
- Walther, K., F.J. Sartoris, C. Bock and H.-O. Pörtner, 2009: Impact of anthropogenic ocean acidification on thermal tolerance of the spider crab *Hyas araneus*. *Biogeosciences*, **6**(10), 2207-2215.
- Wannicke, N., S. Endres, A. Engel, H.P. Grossart, M. Nausch, J. Unger and M. Voss, 2012: Response of *Nodularia spumigena* to pCO₂ – Part 1: Growth, production and nitrogen cycling. *Biogeosciences*, **9**(8), 2973-2988.
- Watanabe, Y., A. Yamaguchi, H. Ishida, T. Harimoto, S. Suzuki, Y. Sekido, T. Ikeda, Y. Shirayama, M. Mac Takahashi, T. Ohsumi and J. Ishizaka, 2006: Lethality of increasing CO₂ levels on deep-sea copepods in the western North Pacific. *Journal of Oceanography*, **62**(2), 185-196.
- Watson, A.J., P.C. Southgate, P.A. Tyler and L.S. Peck, 2009: Early larval development of the Sydney rock oyster *Saccostrea glomerata* under near-future predictions of CO₂-driven ocean acidification. *Journal of Shellfish Research*, **28**(3), 431-437.
- Watson, S.-A., P.C. Southgate, G.M. Miller, J.A. Moorhead and J. Knauer, 2012: Ocean acidification and warming reduce juvenile survival of the fluted giant clam, *Tridacna squamosa*. *Molluscan Research*, **32**(3), 177-180.
- Webster, N.S., S. Uthicke, E.S. Botté, F. Flores and A.P. Negri, 2013: Ocean acidification reduces induction of coral settlement by crustose coralline algae. *Global Change Biology*, **19**(1), 303-315.
- Welladsen, H.M., P.C. Southgate and K. Heimann, 2010: The effects of exposure to near-future levels of ocean acidification on shell characteristics of *Pinctada fucata* (Bivalvia: Pteriidae). *Molluscan Research*, **30**(3), 125-130.
- Welladsen, H.M., K. Heimann and P.C. Southgate, 2011: The effects of exposure to near-future levels of ocean acidification on activity and byssus production of the akoya pearl oyster, *Pinctada fucata*. *Journal of Shellfish Research*, **30**(1), 85-88.
- Weydmann, A., J.E. Søreide, S. Kwasniewski and S. Widdicombe, 2012: Influence of CO₂-induced acidification on the reproduction of a key Arctic copepod *Calanus glacialis*. *Journal of Experimental Marine Biology and Ecology*, **428**, 39-42.
- White, M.M., D.C. McCorkle, L.S. Mullineaux and A.L. Cohen, 2013: Early exposure of bay scallops (*Argopecten irradians*) to high CO₂ causes a decrease in larval shell growth. *PLoS ONE*, **8**(4), e61065, doi: 10.1371/journal.pone.0061065.
- Wong, K.K.W., A.C. Lane, P.T.Y. Leung and V. Thiyagarajan, 2011: Response of larval barnacle proteome to CO₂-driven seawater acidification. *Comparative Biochemistry and Physiology D: Genomics and Proteomics*, **6**(3), 310-321.
- Wood, H.L., J.I. Spicer and S. Widdicombe, 2008: Ocean acidification may increase calcification rates, but at a cost. *Proceedings of the Royal Society London B: Biological Sciences*, **275**(1644), 1767-1773.
- Wood, H.L., J. Spicer, D. Lowe and S. Widdicombe, 2010: Interaction of ocean acidification and temperature; the high cost of survival in the brittlestar *Ophiura ophiura*. *Marine Biology*, **157**(9), 2001-2013.
- Wood, H.L., J.I. Spicer, M.A. Kendall, D.M. Lowe and S. Widdicombe, 2011: Ocean warming and acidification; implications for the Arctic brittlestar *Ophiocten sericeum*. *Polar Biology*, **34**(7), 1033-1044.
- Wu, X., G. Gao, M. Giordano and K. Gao, 2012: Growth and photosynthesis of a diatom grown under elevated CO₂ in the presence of solar UV radiation. *Fundamental and Applied Limnology / Archiv für Hydrobiologie*, **180**(4), 279-290.
- Yamamoto, S., H. Kayanne, M. Terai, A. Watanabe, K. Kato, A. Negishi and K. Nozaki, 2012: Threshold of carbonate saturation state determined by CO₂ control experiment. *Biogeosciences*, **9**(4), 1441-1450.
- Yang, G. and K. Gao, 2012: Physiological responses of the marine diatom *Thalassiosira pseudonana* to increased pCO₂ and seawater acidity. *Marine Environmental Research*, **79**, 142-151.
- Yates, K.K. and R.B. Halley, 2006: CO₃²⁻ concentration and pCO₂ thresholds for calcification and dissolution on the Molokai reef flat, Hawaii. *Biogeosciences*, **3**(3), 357-369.
- Yu, P.C., P.G. Matson, T.R. Martz and G.E. Hofmann, 2011: The ocean acidification seascape and its relationship to the performance of calcifying marine invertebrates: Laboratory experiments on the development of urchin larvae framed by environmentally-relevant pCO₂/pH. *Journal of Experimental Marine Biology and Ecology*, **400**(1-2), 288-295.
- Yu, P.C., M.A. Sewell, P.G. Matson, E.B. Rivest, L. Kapsenberg and G.E. Hofmann, 2013: Growth attenuation with developmental schedule progression in embryos and early larvae of *Sterechinus neumayeri* raised under elevated CO₂. *PLoS ONE*, **8**(1), e52448, doi: 10.1371/journal.pone.0052448.
- Zhang, D.J., S.J. Li, G.Z. Wang and D.H. Guo, 2011: Impacts of CO₂-driven seawater acidification on survival, egg production rate and hatching success of four marine copepods. *Acta Oceanologica Sinica*, **30**(6), 86-94.
- Zittier, Z.M.C., T. Hirse and H.-O. Pörtner, 2013: The synergistic effects of increasing temperature and CO₂ levels on activity capacity and acid-base balance in the spider crab, *Hyas araneus*. *Marine Biology*, **160**(8), 2049-2062.
- Zondervan, I., B. Rost and U. Riebesell, 2002: Effect of CO₂ concentration on the PIC/POC ratio in the coccolithophore *Emiliania huxleyi* grown under light-limiting conditions and different daylengths. *Journal of Experimental Marine Biology and Ecology*, **272**(1), 55-70.
- Zou, D., 2005: Effects of atmospheric CO₂ on growth, photosynthesis and nitrogen metabolism in the economic brown seaweed, *Hizikia fusiforme* (Sargassaceae, Phaeophyta). *Aquaculture*, **250**, 726-735.
- Zou, D., K. Gao and H. Luo, 2011: Short- and long-term effects of elevated CO₂ on photosynthesis and respiration in the marine macroalga *Hizikia fusiformis* (Sargassaceae, Phaeophyta) grown at low and high N supplies. *Journal of Phycology*, **47**(1), 87-97.
- Zou, D., K. Gao and J. Xia, 2011: Dark respiration in the light and in darkness of three marine macroalgal species grown under ambient and elevated CO₂ concentrations. *Acta Oceanologica Sinica*, **30**(1), 106-112.