#ICESASC15 21–25 September 2015

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Conference handbook

DGI Byen
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11:35	**CM code:** H:01 Oral **Title:** Effects of ocean acidification in relation to diel cycles of seawater pCO_2 on early development of ezo abalone *Haliotis discus hannai* **Authors:** Hideki Takami, Toshihiro Onitsuka, Ryo Kimura, Tsuneo Ono, and Yukihiro Nojiri **Keywords:** diurnal fluctuations, larval development, mortality, reduced pH, saturation state, Gastropoda
11:50	**CM code:** H:09 Oral **Title:** Effects of pCO_2 stress on gene expression and biomineralization of developing larvae of the Pacific oyster *Crassostrea gigas* **Authors:** Pierre De Wit, Evan Durland, Alexander Ventura, George Waldbusser, and Chris Langdon **Keywords:** Crassostrea, ocean acidification, aragonite, biomineralization, gene expression, RNA-Seq
12:05	**CM code:** H:10 Oral **Title:** Effects of end-of-the-century ocean acidification on Atlantic cod larvae of different populations in terms of survival, growth and recruitment to the fished stocks **Authors:** Martina H. Stiasny, Michael Sswat, Felix H. Mittermayer, Rüdiger Voss, Fredrik Jutfelt, Melissa Chierici, Velmurugu Puvanendran, Atle Mortensen, Thorsten B.H. Reusch and Catriona Clemmesen **Keywords:** ocean acidification, cod larvae, survival, growth, recruitment, modelling
12:20	**CM code:** H:14 Poster **Title:** Effect of eutrophication on pH in the lagoon of the Baltic Sea **Author:** Sergey Aleksandrov **Keywords:** coastal lagoons, Baltic Sea, pH, eutrophication, climatic changes
	CM code: H:15 Poster **Withdrawn**
12:23	**CM code:** H:16 Poster **Title:** Can pelagic gastropods be used to assess the impacts of ocean acidification in the North Sea? **Authors:** Pablo Leon Dias, Eileen Bresnan, Kathryn Cook, Pam Walsham, Miep Helfrich, and Kevin Mackenzie **Keywords:** plankton, ocean acidification, gastropods, North Sea, "Impact Assessment"
12:26	**CM code:** H:17 Poster **Title:** Diurnal variation of pH in Oshoro Bay, Hokkaido, Japan – A monitoring study assessing and projecting impacts of ocean acidification on coastal ecosystem **Authors:** Shintaro Takao and Masahiko Fujii **Keywords:** subarctic region, ocean acidification, coastal ecosystem, diurnal variation
12:29	**CM code:** H:18 Poster **Title:** Changes in ocean chemistry during the late Miocene **Authors:** Nefeli Kafousia, V. Karakitsios, G. Kontakiotis, K. Agiadi, and M. De Rafelis **Keywords:** Messinian salinity crisis, oxygen isotopes, extreme environment
12:32	**CM code:** H:19 Poster **Title:** Evaluating the effects of ocean acidification on sand-smelt larvae: a case study addressing swimming ability and biochemical biomarkers **Authors:** Cátia Sofia Esteves, S. Novais, S. Mendes, A. F. Lopes, A. P. Oliveira, M. Lemos, E. J. Gonçalves, and A. M. Faria **Keywords:** ocean acidification, early life stages, Ucrit; oxidative stress, sand-smelt
12:35	**Discussion**

13:00	**Lunch break**
15:00	Introduction
15:05	**CM code:** H:11 Oral **Title:** Disruption of behavioural lateralization and shoaling cohesion on sand smelt (*Atherina presbyter*) larvae under ocean acidification **Authors:** Ana Lopes, P. L. Munday, M. Pimentel, R. Rosa, E. J. Gonçalves, and A. M. Faria **Keywords:** ocean acidification, gabazine, GABA-A receptor, lateralization, shoaling, sand smelt
15:20	**CM code:** H:12 Oral **Title:** CO_2-induced ocean acidification increases risk of predation in coastal temperate fish larvae **Authors:** Ana Margarida Faria, A. F. Lopes, A. P. Oliveira, P. Munday, and E. J. Gonçalves **Keywords:** ocean acidification, temperate fish larvae, predation risk, odours, scototaxis
15:35	**CM code:** H:05 Oral **Title:** Economic impacts of ocean acidification on shellfish fisheries and aquaculture in the United Kingdom **Authors:** John K. Pinnegar, Jeo Lee, and Silvana Birchenough **Keywords:** acidification, pH, mollusc, shellfish, crustacean, economic
15:50	**CM code:** H:07 Oral **Title:** Applying organized skepticism to ocean acidification research, or some marine organisms will do just fine in a high CO_2 world **Author:** Howard I. Browman **Keywords:** ocean acidification, Calanus, herring; cod, larvae; early life history, acute effects, toxicity, evolution, resistance, adaptation
16:05	**Panel discussion**
16:30	**End of session**

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Changes in ocean chemistry during the late Miocene

Kafousia, N., Karakitsios, V., Kontakiotis, G., Agiadi, K., De Rafelis M.

During the late Miocene, the oceanic chemistry of the Mediterranean basin was affected by a severe environmental event, known as the Messinian Salinity Crisis (MSC). The gradual restriction of the Mediterranean Sea from the Atlantic Ocean caused a series of events in the palaeoenvironment, such as the reduction of deep-water ventilation, bottom water stagnation, stratification; and caused the deposition of huge volumes of evaporites at that time. In our study area (Zakynthos island, Greece), the evaporitic unit -108 m-thick evaporite succession- comprises eight gypsum-marl cycles. The gypsum is assigned to the Primary Lower Gypsum (PLG) and was deposited during the first MSC stage (5.971-5.60 Ma). The purpose of this research is to study the oxygen isotope composition of the evaporitic sequence of Kalamaki section; also to examine samples from this unit in terms of otolith and foraminifera content. The oxygen isotopic composition of the bulk rock shows a large variability from -3.75 to +8.8‰. These values are divided mainly into two groups, values characteristic of freshwater (-3.75 to ~0‰) and values characteristic of evaporating brines (~5 to 8.8‰). These two different conditions follows one the other in the entire section until the end. Leaving the evaporitic unit, the oxygen isotopic values return to normal marine conditions values. The examination of samples for otolith and foraminifera assemblages revealed none, as it is expected in such environments. The extreme environmental events that occurred in the geological past are the key for understanding the response of the future oceans to the climate change.

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Keywords: Messinian Salinity Crisis, oxygen isotopes, extreme environment

Contact author: Kafousia Nefeli, Department of Historical Geology and Paleontology, Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens, Panepistimiopolis, 15784, Athens, Greece, nkafousia@geol.uoa.gr