

Low oxygen environments in marine, estuarine and fresh waters

The 46th International Liege colloquium

Liège, Belgium
5th - 9th May 2014



Timing of Sessions

Monday (5/05)	Tuesday (6/05)	Wednesday (7/05)	Thursday (8/05)	Friday (9/05)
8:30 Registration				
9:30 Opening of the colloquium and Keynote by Lisa Levin	9:00 Modelling Session <u>Conveners:</u> Temel Oguz & Marilaure Grégoire	9:00 Foodweb Session <u>Conveners:</u> Lisa Levin & Carol Robinson <u>Keynote:</u> Karen Wishner	9:00 Life Session <u>Conveners:</u> Sean Crowe & Steven Hallam <u>Keynote:</u> Klaus Jürgens	9:00 EBUS Session
10:15 Paleo Session Conveners: Caroline Slomp & Daniel Conley <u>Keynote:</u> Silke Severmann	<u>Keynotes:</u> Eugene Turner & Dubravko Justic & Nancy Rabalais			
Coffee break				
	11:00		10:50	10:40
Break				
13:30 Biogeochemical Session <u>Conveners:</u> Wajih Naqvi & Jean-Pierre Descy <u>Keynote:</u> James Murray	14:00 Modelling Session	14:00 Foodweb Session	14:00 EBUS Session <u>Conveners:</u> Véronique Garçon & Francisco Chavez <u>Keynote:</u> Zouhair Lachkar	14:00 Instrumental Session <u>Conveners:</u> Allan Devol & Alberto Borges <u>Keynote:</u> Niels-Peter Revsbech
	Global Change Session <u>Conveners:</u> Jing Zhang & Andreas Oschlies			
Coffee break				
16:00	15:50	15:40	16:00 Social event Guided Visit of the Liege centre	16:00
	<u>Keynote:</u> Lothar Stramma <u>Keynote:</u> Nancy Rabalais	<u>End 17:00</u>		<u>End 17:00</u>
<u>End 18:00</u>	<u>End 18:20</u>			
18:00 Ice Breaker party	18:20 Poster session - Cheese and wine reception			
		19:00 - 19:30 Colloquium dinner at the Crown Plaza Hotel		

Monday

08:15 - 9:30	Registration	
09:30 - 9:45	Welcome by Marilaure Grégoire & Alberto Borges	
9:45 - 10:15	Opening Keynote: Lisa Levin	
Session 1 – Paleoproxies of hypoxia		Conveners: Caroline Slomp & Daniel Conley
10:15 - 10:45	Keynote: Silke Severmann	
10:45 - 11:05	Nardelli M. P., Barras C., Metzger E., Mouret A., Filipsson H. L., Jorissen F., Geslin E.	Benthic foraminifera can calcify under anoxia: Experimental evidences on three species
11:05 - 11:25	Conley D., Gustafsson B., Andersen J., Carstensen J.	Drivers of deoxygenation of the Baltic Sea during the last century
11:25 - 11:45	Jaccard S.L., Galbraith E.D., Froelicher T.L., Gruber N.	Ocean (de)oxygenation across the last deglaciation – Insights for the future
11:45 - 12:05	Hoogakker B., Schmiedl G., Elderfield H., McCave N., Rickaby R.	Past deep water oxygen reconstructions
12:05 - 12:25	Slomp C.	Sediments as recorders of spatial and temporal variability in Baltic Sea hypoxia
12:25 - 13:30	Break	
Session 2 – Deoxygenation and biogeochemical cycles		Conveners: Wajih Naqvi & Jean-Pierre Descy
13:30 - 14:00	Keynote: James Murray	
14:00 - 14:20	Meysman F. J. R., Seita D., Malkin S., Vasquez D., Boschker E.	A novel way of life emerges from hypoxic sediments: microbial sulphur oxidation via long-distance electron transport
14:20 - 14:40	Morana C., Darchambeau F., Roland F., Muvundja F., Kelemen Z., Commarieu M-V Leporcq B., Alunga G., Masilya P., Descy J-P Borges A.V., Bouillon S.	Biogeochemistry of a large, meromictic tropical lake (Lake Kivu, East Africa): insights from a stable isotope study covering an annual cycle
14:40 - 15:00	Rabouille C., W.F. Chen B.Y. He P.H. Cai B. Bombled F. Toussaint M.H. Dai	Combining sediment and water column investigations to study the processes generating hypoxia in the Pearl River Estuary (China)
15:00 - 15:20	Zilius M., Bartoli M., Bresciani M., Petkuvienė J, Lubiene I and Bukaveckas P	Feedback mechanisms between cyanobacterial blooms, transient hypoxia and benthic phosphorus regeneration in shallow coastal environments
15:20 - 15:40	Fuessel J., Nowka B., Luecker S., Lam P., Spieck E., Daims H., Hach P., Litman S., Kuypers M.M.M.	Metabolic versatility of a globally distributed nitrite oxidizer, Nitrococcus sp.
15:40 - 16:00	Coffee	
16:00 - 16:20	Naqvi S.W.A., Shenoy D.M., Kurian S., Naik H., Gauns M., Pratihary A.K., Yasar N.K., Sarkar A., Narvenkar G.	Seasonal Anoxia in Indian Reservoirs
16:20 - 16:40	Barnes J., Upstill-Goddard R.	Oxygen and the denitrification paradox: are sediments a source or a sink of N ₂ O?
16:40 - 17:00	Sulu-Gambari F., Seitaj D., Meysman F., Slomp C. P.	Sediment phosphorus dynamics in a marine coastal lake: Response to seasonal variations in bottom water redox conditions
17:00 - 17:20	Kriest I., Oschlies A.	Simulating remineralization processes in oxygen minimum zones: uncertainties and consequences for global biogeochemical cycles
17:20 - 17:40	Lennartz S.T., Kock A., Bange H.W.	Time Series and Box Model Simulation of Nitrous Oxide (N ₂ O) and Methane (CH ₄) at the Time Series Station Boknis Eck, SW Baltic Sea
18:00 - 20:30	Ice Breaker party	

Tuesday

Session 3 – Modelling hypoxia		Conveners: Temel Oguz & Marilaure Grégoire
09:00 - 9:40	Keynotes: Eugene Turner & Dubravko Justic & Nancy Rabalais	Modeling Coastal Hypoxia: Lessons Learned and Perspectives for the Future
09:40 - 10:00	Oschlies A., Koeve W., Schmidtko S.	Global patterns of deoxygenation deduced from observations and CMIP5 models
10:00 - 10:20	Meier H.E.M., Almroth-Rosell E., Andersson H.C., Eilola K., Gustafsson B.G., Gustafsson E., Kuznetsov I., Müller-Karulis B., Neumann T., and Savchuk O. P.	Modeling hypoxia in past and future climates of the Baltic Sea
10:20 - 10:40	Stanev E., Y. He J. Staneva E. Yakushev	The Black Sea biogeochemistry: focus on temporal and spatial variability of oxygen
10:40 - 11:00	Coffee	
11:00 - 11:20	Testa J., Lee Younjoo Li M., Kemp W. M.	Quantifying biological and physical controls on dissolved oxygen in Chesapeake Bay using a coupled hydrodynamic biogeochemical model
11:20 - 11:40	Grosse F., Lenhart H.-J., Brockmann U.	Looking beyond stratification: A model-based analysis of the biological drivers of oxygen depletion in the North Sea
11:40 - 12:00	Koeve W., Kähler P., Oschlies A.	The puzzle of oceanic oxygen utilization
12:00 - 12:20	Zhou Y., Oenour D.R., Scavia D., Michalak A.M.	Advances in hypoxic extent estimation through geostatistical modeling
12:00 - 14:00	Break	
14:00 - 14:20	Geerts L., Soetaert K., Meiere P.	Oxygen deficiencies in the Schelde and Elbe estuary: same difficulties, different causes
14:20 - 14:40	Laurent A., Fennel K.	Phosphorus limitation reduces hypoxia in the northern Gulf of Mexico: results from a physical-biogeochemical model
Session 4 – Deoxygenation in a global change context		Conveners: Jing Zhang & Andreas Oschlies
14:40 - 15:10	Keynote: Lothar Stramma	Global oxygen changes and oxygen variability in the eastern Pacific off Peru
15:10 - 15:30	Frölicher T.L., Jaccard S.L., Galbraith E., Gruber N.	Transient and equilibrium responses of oceanic dissolved oxygen to global warming
15:30 - 15:50	Coffee	
15:50 - 16:20	Keynote: Rabalais N.	Deoxygenation in a global change context – coastal conditions
16:20 - 16:40	Hetland R., Scully M.	Physical controls of the variability and predictability of hypoxia
16:40 - 17:00	Capet A., Beckers J-M., Grégoire M.	Hypoxia in the Black Sea northwestern shelf : from eutrophication to climate drivers
17:00 - 17:20	Li M., Testa J., Lee Y., Li Y. and Kemp M.	Impact of Climate Variability and Extreme Weather Events on Hypoxia and Plankton Productivity in Chesapeake Bay
17:20 - 17:40	Hagens M., Slomp C.P., Meysman F.J.R., Seitaj D., Borges A.V., Middelburg J. J.	Hypoxia and biogeochemical processes concomitantly influence acidification in the seasonally stratified coastal marine Lake Grevelingen, the Netherlands
17:40 - 18:00	Jenny JP., P. Francus ME. Perga	Recent spreading of hypoxia in continental zones: a meta-analysis from lake sediment archives
18:00 - 18:20	Naqvi S.W.A., Shenoy D.M., Kurian S., Naik H., Gauns M., Pratihary A.K., Yasar N.K., Sarkar A., Narvenkar G.	Time series observations in the seasonally anoxic Tillari Reservoir, India
18:00 - 20:30	Poster session - Cheese and wine reception	

Wednesday

Session 5 – Deoxygenation, marine resources, ecosystem functioning and structure of the foodweb		Conveners: Lisa Levin & Carol Robinson
09:00 - 09:30	Keynote: Wishner K.	Zooplankton ecology in oceanic oxygen minimum zones: Structure, trophic webs, and global change (Keynote)
09:30 - 09:50	Jessen G., Ramette A., Lichtschlag A., Wenzhöfer F., Schubert C.J., Pantoja S., Donis D., Boetius A.	Evidence for a typical microbial community signature associated with hypoxia
09:50 - 10:10	Goes J.I., Rosario Gomes H.D., Prabhu Matondkar S., Basu S., Buskey E.J., Parab S.G., Thoppil P.	Ecosystem disruption in the Arabian Sea with potential links to the spread of hypoxia
10:10 - 10:30	Langlet D., Geslin E., Baal C., Metzger E., Lejzerowicz F., Riedel B., Zuschin M., Pawlowski J., Risgaard-Petersens N., Stachowitsch M., Jorissen F.	Foraminiferal survival and community response to 10 months of experimentally induced anoxia
10:30 - 10:50	Coffee	
10:50 - 11:10	Roman M., Elliott D and Pierson J	Effects of coastal hypoxia on pelagic zooplankton spatial ecology
11:10 - 11:30	Davies S., Sanchez L., Beier E.	Vertical distribution of fish larvae habitats and its relationship with dissolved oxygen gradients in the Tropical-Subtropical Convergence region in the Pacific off Mexico
11:30 - 11:50	Brennan C.E., Blanchard H., Fennel K.	Putting oxygen and temperature thresholds of marine animals in context of environmental change: a regional perspective for the Scotian Shelf and Gulf of St. Lawrence
12:10 - 14:00	Break	
14:00 - 14:20	Currie B.	Namibia's "dead zone": ecosystem functioning in an extreme environment
14:20 - 14:40	Prince E.D., J. P. Hoolihan Jiangang Luo Carlos Palma Lothar Stramma, and Sunke Schmidt	Expanding Oxygen Minimum Zones, Tropical Pelagic Predators, and Atlantic Fisheries That Exploit Them
14:40 - 15:00	Maximov A.A.	Benthic diversity and consequences of hypoxia – introduction of alien polychaetes to the eastern Gulf of Finland enhances the resistance of ecosystem
15:00 - 15:20	Berezina N., Razinkovas-Baziukas A.	Littoral food web in the eastern Baltic Sea lagoons with seasonal hypoxic events
15:20 - 15:40	Coffee	
15:40 - 16:00	Bonsdorff E., Weigel B., Andersson H.C., Meier H.E.M., Nordström M.C., Snickars M., Törnroos A.	Climate change promotes risk of hypoxia in coastal zones threatening zoobenthic communities and their functions
16:00 - 16:20	Breitburg D., Targett T., Rose K., Keppel A., Clark V., Bogue K., Dixon R., Neilan R., Creekmore S.	Breathless nights- diel cycling hypoxia and acidification effects in shallow estuarine waters
19:30 - 23:00	Colloquium Dinner: "Crowne Plaza Hotel"	

Thursday

Session 6 - Life and processes in redox gradients		Conveners: Sean Crowe & Steven Hallam
09:00 - 09:30	Keynote: Klaus Jürgens	Globally distributed microorganisms as biogeochemical key players in marine oxygen-deficient systems
09:30 - 09:50	Borrego C.M., Noguerola I., Picazo A., Llorós M., Camacho A.	Activity and seasonal dynamics of freshwater epsilonproteobacteria in a sulfidic redoxcline of a meromictic karstic lake
09:50 - 10:10	Kalvelage T., Lavik G, Jensen M., Revsbech N P, Schunck H., Loescher C, Desai D., Laroche J., Schmitz-Streit R, Kuypers M.	Aerobic Microbial Respiration in Oceanic Oxygen Minimum Zones
10:10 - 10:30	Geelhoed J., Boschker E. and Meysman F.	Filamentous bacteria involved in long-distance electron transport in marine sediments.
10:30 - 10:50	Coffee	
10:50 - 11:10	Seitaj D., Malkin S., Schauer R., Meysman F.	Efficient sulfide detoxification in seasonally hypoxic sediments by competing S-oxidizing bacteria
11:10 - 11:30	Keil R., Neibauer J., Devol A.	In Situ Incubations and Targeted Proteomics as tools to evaluate carbon cycling in low oxygen marine waters
11:30 - 11:50	Morana C., Borges A.V., Darchambeau F., Roland F., Montante L., Descy J.-P., Bouillon S.	Methanotrophy and chemoautotrophy within the redox gradient of a large and deep tropical lake (Lake Kivu, East Africa)
11:50 - 12:10	Peura S., L. Sinclair, A. Eiler	Microbial processes at the oxycline of humic lakes
12:10 - 14:00	Break	
Session 7 - Eastern Boundary upwelling systems (EBUS) as natural SOLAS laboratories		Conveners: Véronique Garçon & Francisco Chavez
14:00 - 14:30	Keynote: Zouhair Lachkar	Hypoxia in Eastern Boundary Upwelling Systems under modern and future climate
14:30 - 14:50	Montes I., Dewitte B., Gutknecht E., Paulmier A., Dadou I., Oschlies A., Garçon V.	High-resolution modeling of the Eastern Tropical Pacific Oxygen Minimum Zone: Sensitivity to the tropical oceanic circulation
14:50 - 15:10	Garçon V., Sudre J., Hernandez-Carrasco I., Dewitte B., Illig S., Dadou I., Paulmier A., Montes I., Yahia H., Garbe C., Butz A.	Inference of super-resolution ocean pCO ₂ and air-sea CO ₂ fluxes from non-linear and multiscale processing methods
15:10 - 15:30	Bange H., Team of M91	M91: Surface Ocean – Lower Atmosphere Study in the upwelling region off Peru
15:30 - 15:50	Coffee	
16:00 - 18:00	Bange H., Team of M91	

Friday

Session 7 - Eastern Boundary upwelling systems (EBUS) as natural SOLAS laboratories		Conveners: Véronique Garçon & Francisco Chavez
09:00 - 09:20	Tim N., E. Zorita, B Hünicke	Influence of atmospheric circulation on the Namibian upwelling system and the oxygen minimum zone
09:20 - 09:40	Eggert A., Muller A.A., Mohrholz V., Schmidt M.	Seasonal dynamics of the oxygen budget on the Namibian shelf: a model perspective
09:40 - 10:00	Pitcher G.C., Probyn T.A., Pfaff M.C., Rybicki E. and Schroeder D.C.	Red tide and anoxia in a coastal embayment of the southern Benguela upwelling system
10:00 - 10:20	Chavez F., Friederich G., Messié M., Sevadjian J.	The roles of physical and biological processes in determining oxygen and pH levels in the eastern Pacific Ocean
10:20 - 10:40	Coffee	
10:40 - 11:00	Bianchi D., Galbraith E.	Oxygen minimum zones in an eddy-resolving coupled climate model
11:00 - 11:20	Cavan E.	Sinking Particulate Organic Carbon in the Equatorial Tropical North Pacific Oxygen Minimum Zone
11:20 - 11:40	Franco A. C., Lachkar Z., Gruber N., Münnich M.	Changes in habitat availability under increased upwelling in the Humboldt Current System
11:40 - 12:00	Cornejo M., Bravo L., Ramos M., Gallegos M., Pizarro O., Kartstennssen J.	Oceanic anaerobic zone driven by a long-lived mesoscale eddy in the South Pacific
12:00 - 13:30	Break	
Session 8 – Oxygen time series and instrumental developments		Conveners Allan Devol & Alberto Borges
13:30 - 14:00	Keynote: Niels-Peter Revsbech	Oxygen, respiration and photosynthesis in the OMZ
14:00 - 14:20	Tengberg A.	Improve your oxygen optode measurements - user examples, practical handling and calibrations
14:20 - 14:40	Jost G., Labrenz M.	Low Oxygen Environments - a Challenge for New Instruments Ensuring Unbiased Downstream Analysis
14:40 - 15:00	Devol A., Horak R., Ward B	Expansion of the oxygen minimum zone and the denitrification regime in the Eastern Tropical North Pacific from 1972-2012
15:00 - 15:20	Queste B., Fernand L., Jickells T., Heywood K., Hind A.	Multi-scale drivers of oxygen depletion in the North Sea: insights from glider observations
15:20 – 15:40	Coffee	
15:40 - 16:00	Friedrich J., Janssen F., He Y., Holtappels M., Konovalov S., Prien R., Rehder G., Stanev E.	Monitoring hypoxia: approaches to addressing a complex phenomenon in the Black Sea
16:00 - 16:20	Le H.M., Anrys O., Brion N., Verbanck M.A.	Data mining and knowledge discovery based on dissolved oxygen concentrations recorded continuously: the Zenne river case study in Central Belgium

Session 11 – Posters

Paleoproxies of hypoxia

01	210Pb-derived ages for the reconstruction of terrestrial contaminant history into a coastal lagoon.	Guerra R., Righi S.
02	Development of redox proxies based on benthic foraminifera and its application on the sediment record of upwelling regions: a SIMS and FT-ICP-OES approach	McKay C.L., Filipsson H.L., Groeneveld J., Gallego-Torres D., Romero O.E.
03	Heterocyst glycolipids as tracers of cyanobacterial blooms in the Baltic Sea. A proxy to reconstruct a possible trigger of anoxic events	Sollai M., Warden L., Bale N.J., Hopmans E.C., Mets A., Moros M., Sinnigh Damsté J.S.
04	Multidecadal to centennial scale changes in OMZ intensity, marine productivity and anchovy biomass in the Peruvian Upwelling Ecosystem during the last two millennia.	Salvatteci R., Gutierrez D., Field D., Sifeddine A., Ortlieb L.
05	The potential of Mn/Ca in benthic foraminifera as a low oxygen indicator	Filipsson H.L., Groeneveld J.
06	Using fish ear bones as proxies for tracing hypoxic events.	Gilmore K., Gillanders B.M. and Doubleday Z.A.

Deoxygenation and biogeochemical cycles

07	Artificially induced migration of redox layers in Adriatic sediment: fate of some trace metals	Metzger E., Langlet D., Viollier E., Riedel B., Zuschin M., Stachowitsch M., Tharaud M., Geslin E., Jorissen F.
08	CO ₂ , CH ₄ and N ₂ O dynamics and fluxes in the brackish Lake Grevelingen (The Netherlands)	Borges A.V., Meysman F., Darchambeau, Beulen A., Roland F., Harlay J.
09	CO ₂ , CH ₄ and N ₂ O dynamics in Belgian rivers across a gradient of oxygen concentration	Borges A.V., Darchambeau F., Beulen A.
10	Hypoxia in the central Arabian Gulf (Eez of Qatar)	Al-Ansari E.M., Rowe G.T., Abdel-Moati M.A.R., Yigiterhan O., Al-Ansi Al-Yafei M.A.A.A., Upstill-Goddard R.
11	Modern state of the Caspian oxygen minimum zone	Serebrennikova E., Dukhova L., Sapazhnikov V.
12	Nitric Oxide in the Oxygen Minimum Zone off Peru	Lutterbeck H.E., Arévalo-Martínez D., Bange H.W.
13	Occurrence of hypoxic events in the northern Adriatic Sea	Djakovac T., Supic N., Degobbis D and Giani M.
14	On climatic and anthropogenic forcing in the Black Sea biogeochemistry interannual changes	Pakhomova S.V., Yakushev E.V., Shtereva G., Zatsepin A.G.
15	On definitions of redox conditions using biochemical thresholds	Yakushev E.V.
16	Oxygenic primary production in the hypolimnion: a main driver for biogeochemical cycling at the oxic-anoxic interface in shallow lakes?	Brand A., Bruderer H., Schubert C., Wehrli B.
17	Linking benthic biodiversity and oxygen conditions at the sea floor combining statistical and mechanistic modeling. Case study on the Black Sea's northwestern shelf affected by recurrent seasonal hypoxic events.	Drion R, Capet A., Grégoire M.
18	Sediment oxygen uptake in Lake Geneva	Schwefel R., Bouffard D., Bryant L.D., Wüest A.

Modelling hypoxia

19	Context between phytoplankton development in the river and hypoxia in the Elbe estuary (Germany)	Schöl A., Hein B., Viergutz C., Kirchesch V.
20	Coupled dynamics of manganese, iron and phosphorus in the water column of the Black Sea and implications for phosphorus burial.	Dijkstra N., Kraal P., Rijkenberg M.J.A., Slomp C.P.
21	Creaction of an enabling environment and icrease the quality of life- priorities of the "Green Economy"	Shabanova L., Jussupov A.
22	Effects of bioturbation in the oxygen regime of the sediment-water interface: modeling study.	Protsenko E.A., Yakushev E.V.
23	Evaluating the effect of tidal mixing on oxygen dynamics in an Adriatic coastal lagoon	Dalla Barba D., Brigolin D., Pastres R.
24	Exploring a microbial ecosystem approach to modeling marine oxygen minimum zone biogeochemistry	Zakem E., Follows M.
25	Intercomparison of Hypoxia Models for the Northern Gulf of Mexico	Fennel K., Aikman F., Hetland R., Justic D., Ko D.-S., Laurent A., Lehrter J., Murrell M., Wang L., Xu J., Yu L., Zhang W.
26	Modeling Bottom Boundary Layer biogeochemistry changes forced by episodic anoxia	Yakushev E.V., Protsenko E.A.
27	Oxygen dynamics in the Gulf of St. Lawrence and on the Scotian Shelf	Bianucci L., Fennel K.
28	Decadal and Interannual Variability of Oxycline along the Indian West Coast	Parvati V., Suresh I., Neetu S., Lengaigne M., Levy M., Resplandy L., Ethé C., Vialard J., Naqvi SWA.
Deoxygenation in a global change context		
29	Climate controls hypoxia dynamic in low phosphorus conditions: Paleolimnological retro-analysis from 3 large perialpine lakes	Jenny JP., Arnaud F., Dorioz JM., Sabatier P., Alric B., Perga ME
Deoxygenation, marine resources, ecosystem functioning and structure of the foodweb		
30	Early stages of dominant pelagic copepods at Humboldt Current System: effects of hypoxia over physiological responses	Ruz P., Hidalgo P., Cornejo M.
31	Effects of hypoxia on the fish and crustacean fauna in the Gironde Estuary (France)	Lanoux A., Lepage M., De Watteville J., Jatteau P., Schmidt S., Sottolichio A.
32	Egg production rate and survival of dominant pelagic copepods associated with the Oxygen Minimum Zone off northern Chile in the Humboldt Current ecosystem	Hidalgo P., Ruz P., Cornejo M.
33	Foraminiferal capacities to survive anoxia: comparison of two species developing various anaerobic strategies	Geslin E., Langlet D., Risgaard-Petersen N., Le Kieffre C., Barras C., Mabilieu G., Metzger E., Jorissen F.
34	Functional traits of the nematofauna from the Indian western continental margin in relation to habitat heterogeneity.	Singh R., Ingole B., Kaiser S.
35	Has low oxygen condition an impact on nutrients dynamics and macrofauna in a coastal macrophytodetritrus accumulation?	Remy F., T. Mascart P. Dauby S. Gobert G. Lepoint
36	Hypoxia as One of Multiple Stressors Influencing Benthic Community and Trophic Structure Across OMZ Margins	Levin L.A., Sperling E.A., Frieder C.A.

37	Hypoxia in macrophytodetritrus accumulation: Species specific harpacticoid copepod adaptation?	Mascart T., M. De Troch S. Gobert R. Biondo F. Remy G. Lepoint
38	Impact of Low Oxygen Layers on Phytoplankton Composition and Fish Kill	Al-Azri A., Al-Hashmi K., Piontkovski S., Al-Habsi H.
39	Influence of acid-volatile sulfides on metals bioavailability in sediments of a coastal lagoon	Guerra R Borgognoni L
40	Redoxcline sediments of haloclines associated with Deep Hypersaline Anoxic Lakes support protist and fungal populations	Bernhard J.M., Kormas K., Pachiadaki M., Rocke E., Beaudoin D., Visscher P.T., Edgcomb V.P.
41	Two-dimensional distribution of living benthic foraminifera in an anoxic estuarine mudflat (Loire River)	Thibault De Chanvalon A., Metzger E., Mouret A., Cesbron F., Knoery J., Rozuel E., Launeau P., Geslin E.
Life and processes in redox gradients		
42	Anaerobic methane oxidation in two tropical freshwater systems	Roland F., Darchambeau F., Crowe S.A. and Borges A.V.
43	Anoxic conditions in fast ice and ice cover of lakes in Antarctica: concentration of particulate matter and composition features of organic compounds	Kravchishina M.D., Nemirovskaya I.A., Artemév V.A.
44	Methane in three contrasting large lakes: Kivu, Tanganyika, and Baikal	Schmid M.
45	Rates of microbial sulfur oxidation in low oxygen environments	Crowe S.A., Canfield D.E., Sturm A., Cox R.P., Hallam S.J., Lliros M., Jones C., Ulloa O., Darchambeau F., Borges A., Garcia-Armisen, Katsev S.
46	Sediments oxidation by seagrasses: influence on the S cycle in Posidonia oceanica (L.) Delile intermattes dynamic	Abadie A., Lejeune P., Pergent G., Gobert S.
47	Segregation patterns of MCG subgroups in stratified karstic lakes	Fillol M., Gich F., Sanchez À., Cuesta I., Borrego C. M.
48	The effect of oxygen availability on microbial long-distance electron transport in hypoxic sediments	Burdorf L.D.W., Malkin S.Y., Seitaj D., Meysman F.JR.
49	The oxic-anoxic interface in the northeastern Black Sea during anomalously cold winter of 2011/2012.	Ostrovskii A.
Eastern Boundary upwelling systems (EBUS) as natural SOLAS laboratories		
50	Differential denitrification in the oxygen minimum zone in Eastern Tropical North Pacific: Medieval Warming and Little Ice Age.	Juarez M., A. Sanchez, O. Gonzalez-Yajimovich
51	Impact of low oxygen concentrations on scallop culture in the upwelling-influenced Bay of Paracas, Peru	Aguirre A., Flye-Sainte Marie J., Thouzeau G., Jean F.
52	Intraseasonal variability of dissolved oxygen in the upwelling regions off central Peru and Chile: a modelling study	Dewitte B., Montes I., Paulmier A., Ramos M., Garçon V.
53	Mesoscale structures as barriers to mixing in the East Tropical Pacific Oxygen Minimum Zone	Bettencourt J., López C., Hernández-García E., Montes I., Sudre J., Dewitte B., Paulmier A., Garçon V.
54	Seasonal and interannual variability of dissolved oxygen on the continental shelf of conception (36°S) over 2000-2008: physical versus biogeochemical factors.	Pizarro-Koch M., Pizarro O., Dewitte B., Ramos M., Paulmier A., Montes I.
55	The Benguela Upwelling System within an Oxygen Minimum Zone: Potential changes over a warmer climate	Dadou I., Machu E., Le Vu B., Goubanova K., Garçon V.

56	Effects of hypoxia on physiological rates of zooplankton in the oxygen minimum zone of the eastern South Pacific	Cornejo M., Hidalgo P., Ruz P., Contreras G., Franco B. and Fierro P.
57	The Oxygen Supply Tracer Release Experiment in the tropical North East Atlantic Oxygen Minimum Zone	Koellner M., Banyte D., Tanhua T., Visbeck M.
Oxygen time series and instrumental developments		
58	Seasonal, inter-annual and decadal changes of oxygen (O ₂), carbon dioxide CO ₂ (CO ₂), methane (CH ₄) and nitrous oxide (N ₂ O) in the Scheldt estuary (Belgium, The Netherlands)	Borges AV Middelburg J.J.B., Chou L., Kromkamp J., Houtekamer M., Harlay J.
59	Seasonal and inter-annual variations of community metabolism rates of a <i>Posidonia oceanica</i> seagrass meadow based on continuous oxygen measurements with optodes	Champenois W., Borges A.V.
60	Eastern Pacific oxygen time series from the Stratus mooring and from floats	Czeschel R., Weller R.A., Stramma L., Bigorre S.
61	Correlation between the acoustic noise field measured in a <i>Posidonia oceanica</i> bed and the photosynthetic activity.	Felisberto P., Zabel F., Rodriguez O., Santos P., Jesus S.M., Champenois W., Borges A.V., Santos R.
62	Oxygenation trends in the coastal waters of Gulf of Trieste (Northern Adriatic Sea)	Giani M., Celio M., Comici C., Lipizer M., De Vittor C.
63	Kinetics of oxygen uptake in pure cultures of marine bacteria	Gong X., E. Garcia Robledo, A. Schramm, N.P. Revsbeck
64	Application of FerryBox measurements to oxygen flux estimates in European Coastal waters	Haller M., Petersen W., Callies U.
65	Long Term Variability of Hypoxia/Anoxia and Eutrophication in a semi-enclosed area of the Aegean Sea (East Mediterranean)	Pavlidou A., Rousselaki E., Kontoyiannis H., Michalopoulos P., Pagou P.
66	New insights for the oxygen dynamics in the Black Sea revealed by Argo floats measurements	Peneva E., Slabakova V., Stanev E.
67	Investigating dissolved oxygen in the Gironde estuary based on continuous in situ monitoring: merits and drawback	Schmit S., Lanoux A., Diallo P-Y Lepage M., Etcheber H.
68	Oxygen of nanomolar concentration is not found in the Black Sea	Stunzhas P.A., Yakushev E.V.
69	Multi parameters observatories and their contribution to a better knowledge of the ocean	Tengberg A.
70	Oxygen time series at the Scotian Shelf, NW Atlantic Ocean	Thomas H., Craig S.E.
71	International Group for Marine Ecological Time-Series – IGMETS	Isensee K. and Valdés L.
72	The seasonal and spatial variations of phytoplankton community and their correlation with environmental factors in Oualidia lagoon (Moroccan Atlantic)	Elkalay K., Natij L., Damsiri Z., Khalil K., Nakhcha C.
73	Organic matter oxidation in temperate estuarine sediments: experiments and modelling	Khalil K., Jamali H., Rabouille C., Raimonet M., Andrieux-Loyer F., Ragueneau O., Elkalay K.