



From legacy pollutants to emerging contaminants: recent inputs from the 2018 conference of EcoBIM network

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There are a number of challenges involved in researching the effects of hazardous substance inputs on aquatic ecosystems. These include increasing knowledge of mechanistic features at various scales (from individuals down to the cellular and molecular level) and the development and testing of effective tools to monitor biota health in areas under anthropogenic pressure.

Collaborative international ecotoxicology programs are now the norm when it comes to research into chemical contamination and ecosystems within marine environments. Such projects have operated to great effect in the North Atlantic and Mediterranean, combining collaborative monitoring and assessment-related research. Scientists in many countries share the same or similar concerns relating to the inputs and the persistence of hazardous substances in sediment and biota, the potentially harmful effects caused to threatened species and fish stocks (IMMORTEEL Project, 2012–2014 and STURTOP Project, 2013–2017), and the combined effects of water pollution and climate change (IPOC Project, 2012–2016).

The research projects cited above were devised and carried out with the support of the International Network in Aquatic Ecotoxicology EcoBIM. Founded in 2004 to promote cooperation and exchange between francophone researchers from North-America and Europe, this network has nearly 120 members from around 30 teams and laboratories, affiliated

to universities and national research institutions. A new axis of collaboration has more recently merged involving countries in North Africa. ECOBIM works to advance research in aquatic ecosystems along the river-to-ocean continuum, where anthropogenic pressure from pollutant inputs is at its highest. In addition, this network aims to facilitate higher education programs through student and young researcher exchanges and shared coaching. Annual meetings and methodological workshops have been regularly held in participating countries, to communicate among research and to share laboratory practice considering common, guiding scientific goals in aquatic toxicology.

The 14th edition of the International Francophone Symposium on Aquatic Ecotoxicology (EcoBIM 2018) was held from 22 to 25 May 2018 at the University of Bordeaux, the theme was “From legacy pollutants to emerging contaminants.” This conference, organized by Dr. Jérôme Cachot and 15 other members of the EPOC laboratory at the University of Bordeaux, brought together some 100 participants from nine countries, including 30 students. Thirty laboratories were represented, along with two foundations and three companies. There was a rich program of activities, including three plenary lectures (Dr. Bassem Allan, Marine Animal Disease Laboratory, State University of New York; Dr. Louis Tremblay, Cawthron Institute, Nelson, New Zealand; Dr. François Galgani, Ifremer France), 43 oral presentations, 23 presentations, and 20 flash presentations. The participants were able to discover the results of recent works on the fate and effects of legacy pollutants (metals, pesticides, polyaromatic hydrocarbons), as well as emerging pollutants (nanomaterials and microplastics) and new developments in analytical tools (behavior monitoring and omics). Five prizes highlighting the quality of oral and poster presentations (IFQM, University of Bordeaux, EPOC, and Springer) as well as eleven mobility grants (EcoBIM and Nouvelle Aquitaine Region) were awarded to participating students. In addition, a “young audience” symposium was also organized on 25 May jointly by the EcoBIM network, the University of Bordeaux,

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the Bordeaux Rectorate, and the association “Dealer de Science.” This day brought together 114 students and 8 teachers from four middle and high schools in the region. This symposium aims at raising awareness among young people about the environmental sciences and the major ecological challenges of our time (pollution of plastics, pesticides, and medicines) through scientific and artistic workshops (Roman Kroke and Michaël Mourgue), conferences, and exchanges with students around science posters.



Michel Auffret is full professor in Environmental Toxicology at the European Institute for Marine Studies (IUEM, Brest University, France), a multidisciplinary institution in the field of marine and coastal sciences, whose activities are focused on 3 missions: research, training, and observation. He founded there during the 1990s a research group in immunotoxicology and has managed since then many national and international research programs in aquatic ecotoxicology.

His present interest is in developing tools and so-called “biomarker strategies” for marine, coastal water monitoring. He has been a co-founder of the EcoBIM Network and is at present co-director for Europe-Mediterranean.



Jérôme Cachot is full professor in ecotoxicology at the University of Bordeaux (France) and researcher at the Laboratory Environnements et Paléoenvironnements Océaniques et Continentaux (EPOC, UMR 5805 CNRS-University of Bordeaux). With his team, he studies the consequences at different biological scales of the exposure of early life stages of bivalve mollusks and fish to organic, metallic, and microplastic pollutants. To date, he has been involved in 36 regional, national, or

European research projects, co-supervised 19 university theses, and published 80 scientific articles in international journals.



Richard Saint-Louis is full professor in environmental chemistry at the University du Québec at Rimouski (Canada). His research projects concern the impacts of oil spills in cold marine environment on invertebrates. He also works on developing analytical strategies in environmental forensic, to identify sources of contaminants responsible of biological effects at the cellular level. He collaborates with research groups in Canada, Europe, and South America. He is co-director of

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