

## Blue Sea Land 2019

**Titolo Convegno ENR: Sostenibilità delle tecnologie innovative e linee guida verdi di oggi per l'ambiente blu di domani**

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**Titolo intervento: *Interdisciplinary approach to sustainable innovations to reduce pollution***

Since the late 1990s, researchers have discouraged the practice of dividing pollution into categories (air, water, land) and they have stated that there is only 'one pollution' because, by traveling streams and rivers, oceans accumulate the majority of pollution we produce on land, even if we live far from the coasts. Oceans are home to most of the life on earth, from microscopic algae to the blue whale, the largest animal on the planet. Oceans control the weather, clean the air, provide food to the world, and offer work to millions of people. Pollution has been proven to damage the central nervous system in humans and animals and it is known to be responsible for skin, lung, bladder, liver, and stomach cancers. Considering that life expectancy is increasing around the world, people will collect more potentially toxic pollutants during their lives. Researchers in public health, nutritional and environmental sciences, engineering, policy, ethics and economics have the opportunity to create interdisciplinary teams tasked with designing and developing sustainable innovative solutions capable of addressing the rapidly worsening pollution. Sustainable innovation is the process by which sustainability considerations (environmental, social, financial) are integrated at each step from idea generation, to research and development and commercialization. An important characteristic of sustainable innovation aimed to reduce pollution should be the capacity to truly and entirely solve a problem rather than simply shifting the problem from one area to another. For example, starting January 1, 2020, the International Maritime Organization (IMO) will require vessels to reduce the amount of sulfur oxides. Open-loop scrubbers can extract sulfur from the exhaust fumes of ships that run on heavy fuel oil. However, with open-loop scrubbers, the sulfur emitted by the ships is simply channeled from the exhaust and expelled into the water. This solution not only increases the volume of pollutants being pumped into the sea, but also increases the emissions of carbon dioxide.