

## Assessing Copper Leaching and Toxicity from fish cage nets: A Comprehensive Investigation

Paraskevi Maria Tsopanelli<sup>1</sup>, Maria Protopapa<sup>2</sup>, Eleni Tsempelikou<sup>2</sup>, Antonia Despotidi<sup>2</sup>, Evangelia Stroggiloudi<sup>2</sup>, Christina Zeri<sup>2</sup>, Soultana Zervoudaki<sup>2</sup>, Sotiris Karavoltsos<sup>3</sup>

<sup>1</sup>Interinstitutional postgraduate program NKUA-HCMR Oceanography and Management of Marine Environment National and Kapodistrian University of Athens Panepistimiopolis Zografou, 15784 Athens, Greece

<sup>2</sup>Hellenic Centre for Marine Research, Institute of Oceanography, P.O. Box 712, 19013 Athens, Greece

<sup>3</sup>Department of Chemistry, National and Kapodistrian University of Athens, Panepistimiopolis Zografou, 15784 Athens, Greece

Presenting Author: Paraskevi Maria Tsopanelli  
Email: paraskevi.tsopanelli@gmail.com

One of the biggest problems of the aquaculture industry is biofouling upon nets. Organisms like algae, zooplankton and other microorganisms cover the nets and grow or multiply on them. When in considerable amounts, they prevent seawater to flow in the fish cages and limit oxygen exchange, affecting the living conditions for the fishes. From causing the fishes stress, to compromising their immunity system. To control this problem the industry uses paints that contain various toxic substances, such as copper (Cu). The leaching of copper in the seawater can impact those organisms, with bioaccumulation, and the fishes or even humans through biomagnification. This study is an attempt to investigate the toxicological effects of copper (Cu) emanating from specific materials employed in fish cage construction, within controlled laboratory settings, on *Artemia spp.* At the same time, this study aims to quantify the copper concentrations present in the experimental water and residing within *Artemia spp.* under scrutiny.