



Université de Bretagne Occidentale

Ecole Doctorale

Sciences de la Mer et du Littoral

Aménagement des Usages des Ressources et des Espaces marins et littoraux

AVIS DE SOUTENANCE DE THESE

Le mercredi 30 septembre 2020 à 14h

à l' Institut Universitaire Européen de la Mer, Amphi "A", Technopôle Brest-Iroise, Plouzané

Monsieur SEBE MAXIME

soutiendra une thèse de doctorat sur le sujet suivant :

" An interdisciplinary approach to the management of whale ship collisions ".

Le jury sera ainsi composé :

- **M. CLAUDET JOACHIM, Directeur de Recherche**
Univ Paris Sciences& Lettres - PARIS 05EME
- **MME HILMI NATHALIE, Chargée de Recherche**
Centre Scientifique de Monaco - MC 98000 MONACO
- **M. JUNG JEAN-LUC, Maître de conférences**
Univ. de Bretagne Occidentale - BREST
- **M. LEPRINCE MATTHIEU, Professeur des universités**
Univ. de Bretagne Occidentale - PLOUZANE
- **M. PENDLETON LINWOOD, Professeur**
Univ. de Bretagne Occidentale - PLOUZANE
- **M. PSARAFTIS HARILAOS, Professeur**
Univ. Technologique du Danemark - 2800 Kgs LYNGBY - DANEMARK

invité(s) :

- **MME GOURGUET SOPHIE, Cadre de Recherche**
Univ. de Bretagne Occidentale - PLOUZANE
- **M. KONTOVAS CHRISTOS, Senior Lecturer**
Univ. Liverpool John Moores - LIVERPOOL - ROYAUME-UNI
- **M. NASSIRI ABDELHAK, Maître de conférences**
Univ. de Bretagne Occidentale - QUIMPER

A BREST, le 07 septembre 2020

Le Président de l'Université de
Bretagne Occidentale,



M. GALLOU

Abstract:

Collisions with ships are one of the main modern threats to whale survival. Several solutions exist to reduce the risk of collision, but the compliance of the shipping industry with them is often limited. This interdisciplinary thesis aims at understanding the economic, logistic, and ecological gaps that hinder the shipping industry's compliance. The research question is the following: How to integrate human and ecological dimensions in a standardized process to better manage whale-ship collisions? To answer this question, this thesis aims at (1) defining a standardized assessment process for mitigation solutions; (2) investigating the economic and logistic dimensions needed to achieve a holistic assessment of the whale-ship collision issue. The International Maritime Organization has the potential to improve whale protection from ship strikes, and we investigate its risk assessment framework, namely the Formal Safety Assessment. Based on the identified gap within this framework, our research first explores the notion of acceptable risk within the shipping industry and conservation science. Then, we investigate the preferences of the shipping industry for mitigation solutions, and study the economic benefits of avoiding collisions, through avoided costs and risk evaluation criterion. By creating a bridge between economics and ecology, this manuscript improves the mutual understanding of the shipping industry and conservation science. This work could be used as guidelines for the proposal of solutions, leading to an increased compliance of the shipping companies, and, therefore, an improved protection of whales.