

# New marine anti-biofouling surfaces

Université de Toulon



**NICOLAS BAUDIN**  
INTERNSHIPS IN FRANCE INITIATIVE

Name of the hosting institution in France	Université de Toulon
Name of the host laboratory / research team	Laboratoire MAPIEM
Address	CS 60584 - 83041 TOULON CEDEX 9
Website	<a href="https://mapiem.univ-tln.fr/">https://mapiem.univ-tln.fr/</a>
Name of the supervisor	Christine BRESSY/Jean-François Briand
Function	Associate Professor/Associate Professor
Email	Christine.bressy@univ-tln.fr
Phone number	+33 4 94 14 25 80/ +33 4 94 14 67 60

## Internship offer

Topic of the internship (title)	New marine anti-biofouling surfaces			
Proposed dates of the internship	<b>Start</b>	01/12/2021	<b>End</b>	01/06/2022

### Scientific and academic objectives of the internship:

Fouling (the growth of marine organisms) onto ships or other surfaces is a serious problem that dramatically increases fuel consumption and spreading of invasive species. To overcome the fouling problem current methods mainly use antifouling paint containing harmful biocides. The problem with this method is that it increases the level of copper in the harbours creating a serious environmental problem. The focus of this project is to develop new conducting coatings and to study the prevention of biofilm growth on surfaces under electrochemical stress. Different types of conducting paints will be developed by adding conducting carbon compounds such as graphite powder, carbon nanotubes and graphene into commercial paints. This is a project offered as a synchronous project with our partners at Flinders University, so that students have adequate supervision and peer support in both institutions.

## Industrial partner

Name	Naval Group
Main contact	Anne-marie GROLLEAU
Email	anne-marie.grolleau@naval-group.com
Main contact industrial partner's branch in Australia	Margaret Law
Email	margaret.law@pacific.naval-group.com

## Australian partner

Name of the Australian partner institution	Flinders University
Lab/department/team involved in the collaboration	College of Science and Engineering, Flinders University, Bedford Park
Main contact in the Australian partner institution	Mats Andersson/Sophie Leterme
Function	Professor/Associate professor
Email	Mats.andersson@flinders.edu.au, sophie.leterme@flinders.edu.au

Outside of this ongoing collaboration, will students from other Australian universities be considered by the hosting institution in France? No

## Expected profile of applicant

Level of study	Bachelor 4th year /honours/master
Discipline	Materials Chemistry/Physico-chemistry
Prerequisite knowledge, qualities and skills	Formulation of paints, mechanical, surface and bulk characterizations of polymers