



UNIVERSIDAD DE OVIEDO

Departamento de Ciencia
y Tecnología Náutica



Maritime Field Investigation Group of the University of Oviedo (MaFIG-UniOvi).

MaFIG-UniOvi components (twenty in total) are professors and researchers of the University of Oviedo (UOV), which impart their teaching in the UOV's Nautical College of Gijón (NCG). The NCG was the first nautical university college world certified by ISO-9002/94 rules in accordance with IMO STCW code. The certification was carried out by the Lloyd's Register and credited by UKAS in December, 19 2000.

In **MaFIG-UniOvi** there are Doctors and/or “Higher Licentiates in Civilian Marine” with “Professional Qualification”...

- 4 Captains (3 of them are doctors).
- 5 Deck Officers (2 of them are doctors).
- 4 Chief Marine Engineers (all them are doctors).
- 1 Marine Engineer (he is doctor)
- 1 Radio Officer (External collaborator – he is retired).
- 2 Civil Engineers (Harbours, Channels and Roads) (both doctors).
- 1 Mining Engineer (he is doctor).
- 2 Licentiates in Maritime Laws (one of them is doctor, as well as Captain of the Spanish Merchant Navy).

As you can see above, almost all members of **MaFIG-UniOvi** are Doctors at their field of knowledge (in fact, only six researchers are not Doctors, yet). **MaFIG-UniOvi** could supplement with another colleagues of our University, such as, Doctors in Industrial Engineering, Computer Science Engineering, Telecommunication Engineering, Physics, Chemicals, Biologies, Economics, etc.

MaFIG-UniOvi have enough knowledge and skills to be part of FP7 research projects. We have experience in projects of the Spanish National and Regional Plans of Research. We are partners of a “Specific Support Action” of the 6PM (look below).

We have specialists in the next maritime fields:

- Ship's Theory and Naval Construction:
 - Hull, sub-division, intact and damage stability (vessel free floating or on stranding/grounding).
 - Structural resistance (including by finite elements).
 - Advance resistance and propulsion.
 - Ships salvage response.
 - Graphical design.
- Clean and Safe Places of Refuge for ships in distress.
- Clean and Safe places for dismantling, scraping, reconversion and recycling of ships
- Manoeuvring, including sea trials at real scale or with models for prototypes validation, as well as virtual manoeuvring for software validation.
- Precision positioning using differential GPS in real time.
- Oceanography.

- Precision Bathymetries (with or without differential GPS in real time).
 - Phonographies of the marine bottom with digital side scan sonar system.
 - Sea ground discrimination/classification.
- Communications: GMDSS.
- Short sea shipping.
- Special Transports.
 - Oil carriers.
 - Chemical carriers.
 - Gas carriers.
 - Passenger and/or RoRo carriers.
 - Bulkcarriers.
 - Etc.
- Marine motors and Energy.
 - Emissions control.
 - Energy saving.
- Hull, equipment and engines maintenance.
- Search and location of shipwrecks. Forensic analysis on ship's sinking
- Recreational navigation and regattas (validation of race sail boat designs).
- STCW implementation:
 - Research, teaching and training.
- Maritime Safety.
 - ISM Code implementation.
 - Contingency plans against emergencies.
 - Safe Navigation.
 - Fire-fighting.
 - Survival at sea.
 - Search & Rescue.
- Security.
 - ISPS Code implementation.
 - Security procedures (in harbours, anchorages or during navigation).
- Pollution.
 - Marine pollution prevention.
 - Risk analysis by hydrocarbons pollution at sea and coast.
 - Contingency plans against marine pollution by hydrocarbons.
 - Marine pollution response.

- Predictions of the movement of spilled oil in real time. It includes simple graphical procedures for entering both wind (in real time) and hydrodynamic data (currents, depths, shore type, etc.) and specifying the spill scenario.
 - Oil spill response decision support.
 - Oil spill response training.
 - Spill drill exercises.
 - Contingency planning studies.
 - Litigation support.
 - Management of spill related data.
 - Communicate spill scenarios.
- Maritime Laws:
 - Public and Private Maritime Laws at International, European and National level.
 - Maritime trade.
- Prevention of labour risks.
 - Shipyards.
 - Industry.
 - Ships' onboard.
- Internal inspections of quality systems.
 - Shipyards.
 - Industry.
 - Ships' onboard.
 - Universities
 - Faculties, Colleges, Higher Schools, Academies, Institutes, etc.
- Human factor:
 - The human factor effect in maritime accidents.
 - Human factor of the leader in emergency cases.

MaFIG-UniOvi, coordinated by Dr. Horacio Javier Montes Coto, was a partner of an SSA (Specific Support Action) ETI Project (Economic and Technological Intelligence Action) of the EU 6th Framework Programme (FP6), from September 1, 2005 till October 31, 2007. The project title was “**Enhancing Research and Development Projects to find Solutions to Struggle against various Marine Pollutions**” **MAPO**.

- www.marine-pollutions.org.
- **MAPO** [in Cordis Web Site](#).

Staff and capabilities of MaFIG-UniOvi.

Maritime Field Investigation Group
Universidad de Oviedo
MaFIG-UniOvi

General Coordinator
Dr. Horacio J. Montes Coto

Arquitectura y Construcción Naval
Contaminación Marina
Dr. Horacio J. Montes Coto
Dr. José M. Cuetos Megido

Dr. Enrique Gaucedo Lamadrid
Dr. Antonio Morán Pérez

Navegación & Maniobra
Dr. Abel Cambor Ordiz

Prof. Manuel Á. Alonso Pica
Prof. Roberto Álvarez Bucetas
Náutica deportiva y de Recreo
Competición en Regatas
Prof. Roberto Álvarez Bucetas
Dr. Daniel Ponte Gutiérrez

Batimetrías de precisión
y fonografías del fondo marino
Dr. Abel Cambor Ordiz

Dr. Horacio J. Montes Coto
Dr. José M. Cuetos Megido
Dr. Jesús García Maza
Dr. Benjamín Sánchez Fernández
Dr. Luis A. García Martínez
Prof. Manuel Á. Alonso Pica
Prof. Roberto Álvarez Bucetas
Prof. Ángel del Reguero Huergo

Ingeniería Marítima
Control de emisiones
Dr. Pedro Fernández Viar

Dr. Daniel Ponte Gutiérrez
Dr. Rubén González Rodríguez
Dr. Adolfo Carriles Menéndez
Dr. Guillermo García Martínez

Emergencias Marítima
Control de riesgos, GMDSS
Dr. Jesús García Maza

Prof. Ángel del Reguero Huergo
Prof. Francisco de Francisco

Transportes Especiales
Seguridad marítima
Dr. Rafael García Méndez

Prof. Roberto M. Fernández Rico
Prof. Roberto Álvarez Bucetas

Derecho Marítimo
Dr. Carlos Fdez. Beistégui
Prof. Ramón Fdez. Guerra

Tribología
Dr. José M. Cuetos Megido

Dr. Rubén González Rodríguez
Dr. Horacio J. Montes Cotos

Coordinator: Dr. Horacio Javier Montes Coto (Ph.D) (AFRIN) (AssRINA), he is:

- Doctor in Civilian Navy.
- Captain of the Spanish Merchant Navy, with 16 years of experience onboard merchant ships (6 as Captain).
- “Associate Fellow” of “The Royal Institute of Navigation” - London - UK (AFRIN - N13884)
- “Associate” of “The Royal Institution of Naval Architects” - London - UK (AssRINA - N 00246611).
- Titular (Senior) Professor and Researcher of the University of Oviedo, from 21 years ago, with teaching in “Ships’ Theory and Naval Construction” & “Marine Propulsion” and researching in the same fields as well as in:
 - Naval Architecture.
 - Ships’ Salvage Response.
 - Marine Pollution (Risks Analysis, Prevention, Prediction, Control, Response and Fight).
 - Maritime Safety & Security,
 - Maritime Emergencies,
 - Clean and Safe Places of Refuge for ships in distress.
 - Clean and Safe places for dismantling, scraping, reconversion and recycling of ships,
 - Oceanography.
 - Precision bathymetries.
 - Phonographies of the marine bottom with digital side scan sonar system.
 - Sea ground discrimination/classification.
 - Sea ground discrimination/classification.
 - Tribology.

Most part of founded projects where Dr. Montes participated at national level, were in Tribology. In fact, his Doctoral Thesis, and most part of relevant publications (including 2 JRC’s) were developed in this field, but from 2003 year, he is reorienting his research toward the maritime field, fundamentally at European level. Before 2003 year, most part of the research works in the maritime field were carried out by mean of direct contracts University/Enterprise, including a subcontract in a National PROFIT project.

At European level Dr. Montes was:

- Coordinator of a proposal project, prepared to be submitted to the SST FP6 1st call. Unfortunately the submission was impossible because the served was collapsed at the time to do it. The title was:
 - **Response against Emergencies in ships potentially dangerous and/or pollutants: Measures to take concerning to SOLAS, STCW, ISM, MARPOL 73/78, IBC/BCH & IMDG Codes (EmerShipRes)**
- Responsible person of University of Oviedo (UOV) as partner in a proposal project (STREP) submitted to the SST FP6 1st call. The proposal was founded by the EC, but OUV stayed out of the project in the contract negotiation phase. Title:

- **SAFE ABANDONING OF SHIPS: Improvement of current Life Saving Appliances Systems. (SAFECRAFTS)**
- Responsible person of UOV as partner in 1 FP6 founded project (SSA).
 - **Enhancing Research and Development Projects to find Solutions to Struggle against various Marine Pollutions (MAPO) Proposal/Contract no.: 023210-MAPO. Coordinador “Technopole Brest Irois”, duración 1 de Sept-2005 hasta 31 de octubre de 2007**
- Responsible person of UOV as partner in 1 project proposal (STREP) submitted to the SST FP7 1st Call. Unfortunately, that proposal was rejected by the EC to be founded. Title:
 - **Modular Waterborne Transport (MOWAT)**
- Responsible person of UOV as 2nd partner and Technical Coordinator of a project proposal (STREP) submitted to the SST FP7 2nd Call, unfortunately, that proposal was also rejected by the CE to be founded. Dr. Montes was the owner of the intellectual property rights of the original idea for this proposal.
 - **MarITIME EMERGENCIES INTELLIGENT ASSESSMENT SYSTEM (MarEAS)**
- Under Dr. Montes coordination, **MaFIG-UniOvi**, goes as partner in one EU project proposal under the 3st call of the 7th Frame Programme– topic SST.2010.6-2. Maritime industry knowledge network.
 - **Attracting Training, Retaining and Advancing Crew and Technical workforce for Sustainable Maritime Europe (ATTRACTS_ME)** unfortunately, that proposal was also rejected by the CE to be founded.

At National level:

- Under Dr. Montes coordination, **MaFIG-UniOvi**, goes since January 1, 2010 as sub-contracted in a National CENIT project:
 - Title: “**LÍDERES EN ENERGÍAS RENOVABLES OCEÁNICAS**” (**OCEAN LIDER**) (LEADERS IN OFFSHORE RENEWABLE ENERGIES). Project Líder: IBERDROLA, Coordinator: FUNDACION INNOVAMAR. Duration 3 years.
- Through project:
 - “Ad Futurum. Proyectando nuestra tradición hacia el futuro”, the University of Oviedo reach the “Campus of International Excellence” and the “Cluster of Energy, Environment and Climatic Change (CEMACC for the initial letters in Spanish language) was created. The main CEMACC objective is the construction of a multi-use offshore platform in coast of Asturias, (for Renewable Energies, Fisheries, Aquaculture, Climatic Change Monitoring, etc).
 - **MaFIG-UniOvi** is member of CEMACC and Dr. Montes is the Coordinator of the bathymetries and phonographies works in coast of Asturias that **MaFIG-UniOvi** is making in the eligible places to build and install a multi-use offshore platform.
- *Dr/Ph.D José Manuel Cuetos Megido.*
 - Naval Architecture.

- Ships' Salvage Response.
- Maritime Safety.
- Marine Pollution (Prevention, Prediction, Control, Response and Fight).
- Oceanography.
 - Precision bathymetries.
 - Phongraphies of marine bottom with side scan sonar system
 - Sea ground discrimination/classification.
- ***Dr/Ph.D Pedro Fernández Viar.***
 - Maritime Engineering.
 - Emissions Control.
 - Maritime Safety,
 - Marine Pollution (Prevention, Prediction, Control, Response and Fight).
- ***Dr/Ph.D Abel Cablor Ordiz.***
 - Navigation.
 - Positioning by differential GPS in real time.
 - Oceanography.
 - Precision bathymetries.
 - Phographies of marine bottom with side scan sonar system
 - Sea ground discrimination/classification.
 - Geodesy.
 - GMDSS.
 - Risk Management.
 - Short Sea Shipping.
- Dr/Ph.D Benjamín Sánchez Fernández.***
 - Positioning by differential GPS in real time.
 - Geodesy.
- ***Dr/Ph.D Jesús García Maza.***
 - Navigation.
 - Risk Management, Human factor.
 - Short Sea Shipping.
 - Oceanography.
 - Precision bathymetries.
 - Phographies of marine bottom with side scan sonar system
 - Sea ground discrimination/classification.
- ***Dr/Ph.D Rafael García Méndez.***
 - Maritime transport.

- Cargo stowing.
- Pollution fighting.
- Pollution through ballast water.
- Oceanography.
 - Precision bathymetries.
 - Photographies of marine bottom with side scan sonar system
 - Sea ground discrimination/classification.
- ***Dr/Ph.D Carlos Fernández Beistegui.***
 - Maritime Laws at International, European and Spain level.
- ***Dr/Ph.D Enrique Gancedo La Madrid.***
 - Cartography.
 - Technical draw.
- ***Dr/Ph.D Antonio Morán Pérez.***
 - Mechanics.
 - Ship's dynamics.
 - Structures. Finite elements software.
- ***Dr/Ph.D Daniel Ponte Gutiérrez***
 - Marine Motors.
 - Emissions control.
 - Sportive and recreational navigation.
 - Competition in regattas (validation of race sail boat designs).
- ***Dr/Ph.D Rubén González Rodríguez***
 - Marine Motors.
 - Tribology.
- ***Dr/Ph.D Guillermo García Martínez***
 - Maintenance.
- ***Dr/Ph.D Adolfo Carriles Menéndez***
 - Marine motors.
 - Repairs.
- ***Dr.Luis A. García Martínez.***
 - Meteorology.
 - Marine weather Interpretation and Prediction.
 - Oceanography.
 - Precision bathymetries.
 - Photographies of marine bottom with side scan sonar
 - Sea ground discrimination/classification.

- ***Prof. Manuel Angel Alonso Pica.***
 - Navigation.
 - Differential GPS in real time.
 - GMDSS.
 - Navigation software.
 - Graphical design.
 - Meteorology.
 - Marine weather Interpretation and Prediction.
 - Oceanography.
 - Precision bathymetries.
 - Photographies of marine bottom with side scan sonar
 - Sea ground discrimination/classification.
- ***Prof. Roberto M. Fernández Rico.***
 - Special transports.
 - Maritime Safety.
 - Marine Pollution.
 - Manoeuvres.
 - Dock Master in shipyards.
 - Ship's launching and refloating in dry-docks.
 - Experimentations with ships at real scale (Sea Trials).
 - Velocity.
 - Manoeuvrings.
 - Curve of evolution.
 - Zig zag.
 - Fuel consumption tests.
- ***Prof. Roberto Álvarez Bucetas.***
 - Sportive and recreational navigation.
 - Competition in regattas (validation of race sail boat designs).
 - Maritime Safety.
 - Oceanography.
 - Precision bathymetries.
 - Photographies of marine bottom with side scan sonar
 - Sea ground discrimination/classification.
- ***Prof. Ángel J. del Reguero Huergo.***
 - Navigation.
 - Maritime Safety.

- GMDSS.
- ***Prof. Ramón Fernández Guerra.***
 - Maritime Laws at International, European and Spanish level.
 - Legal aspects in the Maritime Trade.
- ***External collaborator ex-Professor. Francisco de Francisco (Retired person).***
 - Maritime communications.
 - GMDSS.

Gijón, September 2010