MINISTERIO
DE ECONOMÍA
Y COMPETITIVIDAD

SECRETARÍA DE ESTADO
DE INVESTIGACIÓN
DESARROLLO E INNOVACIÓN

SECRETARÍA GENERAL
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DIRECCIÓN GENERAL
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SUBDIRECCIÓN GENERAL
DE RECURSOS HUMANOS
PARA LA INVESTIGACIÓN

AYUDAS RAMÓN Y CAJAL
CONVOCATORIA 2014

Turno de acceso general

Nombre: **MENENDEZ GARCIA, MELISA**
Referencia: RYC-2014-16469
Área Científica: Ingeniería Civil y Arquitectura
Correo Electrónico: menendezm@unican.es

Título:

Characterization of ocean and coastal dynamics. Applications to Coastal Engineering

Resumen de la Memoria:

Dr. Melisa Menéndez is associate researcher of the Environmental Hydraulic Institute (IH-Cantabria), from the "Marine Climate and Climate Change team" of the Institute. She received the Marine Science degree from the university of Cadiz, Spain (2001) and the Ph.D. degree in Marine Sciences and Technologies from the university of Cantabria, Santander-Spain (2008), having obtained the Ph.D. special award in technical education of the Cantabria university for her work "Non-stationary statistical analysis of extreme values of geophysical variables". She worked as visiting scholar at Scripps 'Institution of Oceanography' and at 'Hydrologic Research Center' (California, USA, 2007) and at the National Oceanography Centre (Liverpool, UK, 2009). Her main research interests are: characterization of marine climate; assessment of marine energy schemes; climate variability analysis; climate change impact on the coast and marine structures; extreme value analysis and statistical and dynamic downscaling of marine climate. She has published on these topics, especially with the extreme value analysis and climate variability. Recent work includes national and international projects on coastal climate change impact, marine renewable resources evaluation and the improvement and help on design and management of maritime works.

Resumen del Currículum Vitae:

Dr. Melisa Menéndez is associate researcher of the Environmental Hydraulic Institute (IH-Cantabria), from the "Marine Climate and Climate Change team" of the Institute. She received the Marine Science degree from the university of Cadiz, Spain (2001) and the Ph.D. degree in Marine Sciences and Technologies from the university of Cantabria, Santander-Spain (2008), having obtained the Ph.D. special award in technical education of the Cantabria university for her work "Non-stationary statistical analysis of extreme values of geophysical variables". She worked as visiting scholar at Scripps 'Institution of Oceanography' and at 'Hydrologic Research Center' (California, USA, 2007) and at the National Oceanography Centre (Liverpool, UK, 2009). Her main research interests are: characterization of marine climate; assessment of marine energy schemes; climate variability analysis; climate change impact on the coast and marine structures; extreme value analysis and statistical and dynamic downscaling of marine climate. She has published on these topics, especially with the extreme value analysis and climate variability. Recent work includes national and international projects on coastal climate change impact, marine renewable resources evaluation and the improvement and help on design and management of maritime works.

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Turno de acceso general

Nombre: **BUTTIGLIERI , GIANLUIGI**
Referencia: RYC-2014-16754
Área Científica: Ingeniería Civil y Arquitectura
Correo Electrónico: gianluigi.buttiglieri@gmail.com

Título:

Water micropollutants: fate in the environment and in wastewater treatment plants.

Resumen de la Memoria:

I got my MSc Degree in Environmental Engineering (2004) and a PhD in Sanitary and Environmental Engineering (2008) from the Department of Civil and Environmental Engineering, Politecnico di Milano, Italy. My formation and research activity have broadly encompassed the Sanitary Engineering field and, particularly water and wastewater treatment technologies at bench, pilot and full-scale treatment plants at both national (Italy, Germany and Spain) and international level. Interdisciplinary approach is guiding my research carrier all along.

In particular I am an internationally recognized expert on water micropollutants (pharmaceutical compounds but also pesticides, surfactants, etc.) fate in the environment and in WWTPs.
Since 2010, I am leading the research line at ICRA on micropollutants monitoring and removal in the environment and by means of different treatment technologies.

Different water matrixes have been measured: natural waters in scarcity area region (Spain) and in continental climates (Germany, North of Italy), domestic wastewaters, industrial wastewaters (pharmaceutical factories) and, recently, also water from tourist facilities.

Different interdisciplinary levels have been considered:
- engineering design, operation and control of treatment technologies;
- emerging and priority pollutants analytical determination (gas, liquid chromatography, mass-spectrometry);
- evaluation of parental compound removal, (bio)degradation/recalcitrance, solid/liquid distribution;
- micropollutants metabolite searching and confirmation in environmental and wastewater samples;
- biological activity measurement, microbiological analyses and biodiversity (by means of respirometry, calorimetry, (meta)proteomics, microbial community studies);
- evaluation of micropollutants' ecotoxicological effect on the biomass.

The research line has been involving different treatment technologies:
- conventional activates sludge systems (CAS);
- long term acclimated biomass;
- nitrifying biomass;
- pure strains cultures;
- membrane bioreactors (MBR);
- constructed wetlands;
- Fenton treatment and advances oxidation processes;
- technology comparison (CAS vs. MBR, wetland vs. CAS, advanced oxidation treatment in comparison and combination with biological treatment).

Currently, I am the scientific manager (for the entire project and for the ICRA unit as well) of the European project demEAUmed (Demonstrating integrated innovative technologies for an optimal and safe closed water cycle in Mediterranean tourist facilities); of the project ESR5a (Biodegradation of micropollutants) of the European ITN SANITAS project and for the ICRA contribution in the national project ITACA (Investigación de tecnologías de tratamiento, reutilización y control para la sostenibilidad futura de la depuración de aguas residuales).

I have been working in several funded European (demEAUmed; SANITAS-ITN, ITN-289193; MBR-TRAIN, MEST-CT-2005-021050), Spanish (ITACA, IPT-2011102; Colmatar+, CTM2009-14742-C02-0; GEISTTAR, CTM 2011-27163; Mecapharm, ICRA IWRP) and Italian projects (funded by the Italian Ministry for University and Research, the Lombardy Region, Cariplo Foundation) and also cooperating with companies and other entities (the private company Acciona, the Catalan Water Partnership; HERA SpA, Cariplo foundation, Lombardy Region and ARPA Lombardia).

Resumen del Currículum Vitae:

I got my MSc in Environmental Engineering (2004) from the Department of Civil and Environmental Engineering (Politecnico di Milano, POLIMI, Italy) with a year training period on nitrate removal by means of membrane bioreactor (MBR) at the Joint Research Centre, Ispra

(Italy).
In 2008 I got my PhD in Sanitary and Environmental Engineering from POLIMI (dissertation on water micropollutants presence in the environment and removal from water and sludge). During my PhD secondment, at Europa Fachhochschule Fresenius (Idstein, Germany), I delved into analytical analyses, micropollutants metabolite searching and confirmation in environmental and wastewater samples.
From 2008 to 2010 I had postdoctoral contracts at POLIMI on surfactants removal, pharmaceuticals removal and comparison of technologies (MBRs and conventional wastewater treatment plants).

Since 2010 I established and leading the research line at ICRA on micropollutants (pharmaceutical, endocrine, UV filters compounds) monitoring and removal by means of different treatment technologies.
Since January 2014 I am the scientific manager of the European project demEAUmed: "Demonstrating integrated innovative technologies for an optimal and safe closed water cycle in Mediterranean tourist facilities". I am the responsible of the project ESR5a (Biodegradation of micropollutants) of the European ITN SANITAS project and for ICRA contribution in the national project ITACA ("Investigación de tecnologías de tratamiento, reutilización y control para la sostenibilidad futura de la depuración de aguas residuales").

I am responsible for the acquisition of research funding and projects, management and financial resource planning. I have been working in several funded European (demEAUmed; SANITAS-ITN, ITN-289193; MBR-TRAIN, MEST-CT-2005-021050), Spanish (ITACA, IPT-2011102; Colmatar+, CTM2009-14742-C02-0; GEISTTAR, CTM 2011-27163; Mecapharm) and Italian projects (funded by the Italian Ministry for University and Research, the Lombardy Region, Cariplo Foundation). I have been cooperating with companies and other entities (the private company Acciona, the Catalan Water Partnership; the Italian large multi-utility company HERA SpA, Cariplo foundation, Lombardy Region, ARPA Lombardia).

My research activity has broadly encompassed the Environmental Engineering field and particularly water and wastewater treatment technologies. I have broad experience at bench, pilot and full-scale treatment plants (WWTP) at both national (Italy, Germany and Spain) and international level.
I have experience with conventional activates sludge systems, MBRs (Decision Support Systems and membrane fouling), SBRs, wetlands, Fenton treatment and advanced oxidation processes. As it concerns to biological treatments, I have experience with mixed cultures, acclimated biomass, nitrifying biomass and pure strains cultures measuring the biological activity (micro-calorimetry, proteomics, microbial community studies).

My research activity have resulted in 21 publications (18 ISI listed peer-reviewed journal, most in the first quartile; H-index of 8; 212 citations; 2 book chapters and an on-line proceeding) and over 40 conference proceedings. I have a consolidated experience in mentoring with the finalized supervision of 1 PhD thesis (and the mentoring of another PhD), 13 MSc, 11 BSc final projects and 9 trainee activities.