



RESEARCH TEAM FOR SUSTAINABLE PRODUCTION IN CANTABRIA

2018 ACTIVITY



DEPARTMENT OF CHEMICAL AND BIOMOLECULAR ENGINEERING



Sustainable Production in Cantabria
Department of Chemical and Biomolecular Engineering

ETSIIyT – Universidad de Cantabria
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SOSPROCAN TEAM



SOSPROCAN TEAM

The **SOSPROCAN team** hosts more than 60 researchers of the University of Cantabria with background in the analysis, design and optimization of environmental and production processes.

The aim of this team is to develop cutting-edge research to advance the sustainability and innovation of environmental and production processes.

The members of SOSPROCAN team belong to four research groups:

DEPRO
Development of
Environmental and
Production Processes

PAS
Advanced
Separation
Processes

TAB
Environmental
Technologies and
Bioprocesses

IPS
Sustainable
Processes
Engineering



Work

rest

New Head of the Chemical & Biomolecular Engineering Department - March 13th, 2018

Prof. Ángel Irabien was nominated as Head of the Chemical & Biomolecular Engineering Department. The event, chaired by the rector of the University of Cantabria, Mr. Ángel Pazos, took place in the Pabellón de Gobierno of the University of Cantabria last March 13th, 2018. A representative group of researchers of the Chemical and Biomolecular Engineering Department wanted to share with him this moment.



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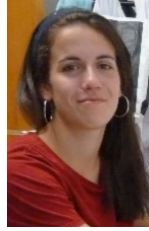
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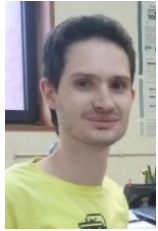


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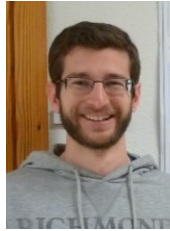
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- Saúl Lagüillo
- Rubén Leivas

RESEARCH TOPICS





RESEARCH



KNOWLEDGE SHARING



CONSULTING



TRANSFER OF KNOWLEDGE



Study Programmes

✓ 4th Edition - Official Master in Chemical Engineering

The Official Master in Chemical Engineering is jointly taught with the University of the Basque Country promoting an excellent training program with highly specialized Academics. The degree follows the previous editions of the Master in Chemical Engineering “SustainAble Production and Consumption” of the University of Cantabria and the Master in Chemical Process Engineering and Sustainable Development of the University of the Basque Country, both taught since 2007.

The master endorses the guidelines recorded in **BOE A-2009-12977**, June 8th, 2009.

More info:

<http://web.unican.es/centros/etsiit/Paginas/Master-Universitario-en-Ingenieria-Quimica.aspx>



✓ Doctoral Studies in Chemical, Energy and Process Engineering,

More info: <https://web.unican.es/estudios/detalle-doctorado?p=183&a=2017>



✓ International Academic Exchange Socrates-Erasmus Programmes.

More info: <https://web.unican.es/unidades/oficina-relaciones-internacionales/estudiantes>



Socrates
Grundtvig



Professional Promotions

Full Professor

October, 2018

Daniel Gorri was proposed for recruitment as Full Professor by the evaluation committee formed by Javier León, vice-chancellor for research and development of the University of Cantabria, with the participation of Prof. Juan José Rodríguez from the Universidad Autónoma de Madrid, Prof. Javier Bilbao from the Universidad del País Vasco and Profs. Inmaculada Ortiz and Ane Miren Urtiaga from the Universidad de Cantabria.



Associate Professors.

April, 2018

Dr. Gabriel Zarca was promoted to Associate Professor after the evaluation by the committee formed by Prof. Inmaculada Ortiz, Prof. Raquel Ibañez and Dr. Iñaki Fernández.



September, 2018

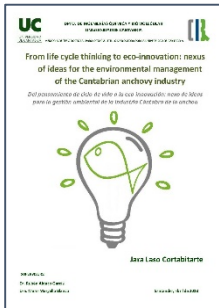
Dr. Nazely Diban was promoted to Associate Professor after the evaluation by the committee formed by Prof. Ángel Irabien, Prof. Ane Urtiaga and Dr. Ignacio Fernández.



April 25th, 2018

Jara Laso's PhD Dissertation: **"From life cycle thinking to eco-innovation: nexus of ideas for the environmental management of the Cantabrian anchovy industry"**

Supervisors: Dr. R. Aldaco and Dr. M. Margallo



April 27th, 2018

Iván Merino's PhD Dissertation: **"Gas-phase carbon dioxide electroreduction for the production of hydrocarbons"**

Supervisors: Prof. A. Irabien and Dr. J. Albo



April 27th, 2018

Ana Fernández's PhD Dissertation: **"Preparation and characterization of flat and hollow fiber membranes for CO₂ separations"**

Supervisors: Prof. A. Irabien and Dr. C. Casado



June 20th, 2018

Antoniell Carlos Carolino's PhD Dissertation: **"Poly(urethane-urea) composite membranes with AgNP/activator and AgBF₄/BMImBF₄ systems for light olefins/paraffins separations"**

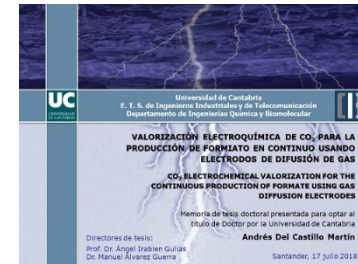
Supervisors: Dr. A. Ortiz (UC) and Dr. R. Azevedo (UERJ)



July 17th, 2018

Andrés del Castillo PhD Dissertation: **"CO₂ electrochemical valorization for the continuous production of formate using gas diffusion electrodes"**

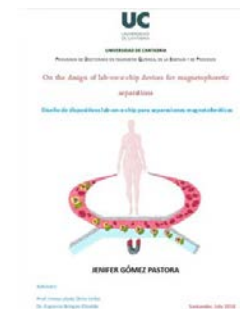
Supervisors: Prof. Ángel Irabien and Dr. Manuel Álvarez



July 20th, 2018

Jennifer Gómez's PhD Dissertation: **"On the design of lab-on-a-chip defices for magnetophoretic separations"**

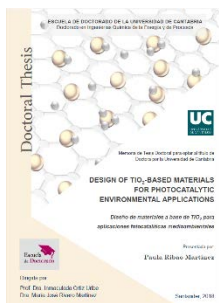
Supervisors: Prof. I. Ortiz and Dr. E. Bringas



September 28th, 2018

Paula Ribao's PhD Dissertation: **"Design of TiO₂-based materials for photocatalytic environmental applications"**

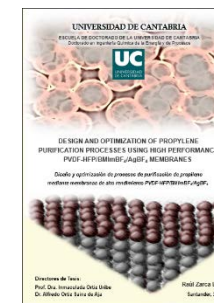
Supervisors: Prof. I. Ortiz and Dr. M.J. Rivero



November 29th, 2018

Raúl Zarca's PhD Dissertation: **"Design and optimization of propylene purification processes using high performance PVDF-HFB/BMIImBF₄/AgBF₄ membranes"**

Supervisors: Prof. I. Ortiz and Dr. A. Ortiz



December 17th, 2018

Juan Andrés Álvarez's PhD Dissertation: **"Development and characterization of polyethylene multilayer films crosslinked by means of electron beam irradiation"**

Supervisors: Prof. A. Urriaga and Prof. R. Benavente



FINAL PROJECT MASTER & DEGREE

July 23rd, 2018

The students who followed the European Project Semester Programme defended their final degree project in Chemical Engineering. Salvador Asensio, Belén García, Carlota Guati, María de los Angeles Mantecón and Diego Melón presented their works. The evaluation committee was formed by Jonathan Albo, Marcos Fallanza and María Margallo.



FINAL PROJECT MASTER

Students of the Master in Chemical Engineering (UC- UPV/EHU) defended their final project master in the academic year 2017/18.

March 2nd, 2018

Elsa Ajo, Beatriz Muñoz, Sergio Pérez, Daniel Echevarría and Laura Rancaño defended their final project master in the University of Basque Country. The evaluation committee was formed by Prof. Andrés Tomás Aguayo (UPV/EHU), Dr. María Fresnedo San Román (UC) and Dr. Manuel Álvarez (UC).

October 26th, 2018

Mike Conde, Aitor Kortina, Borja Molinuevo, Santiago Orozco, Guillermo Penche, José Manuel Vadillo and Héctor Vicente defended their final project master in the conference room of the ETSIIT of the University of Cantabria. The evaluation committee was formed by Prof. Raquel Ibáñez, from the University of Cantabria, Dra. Miriam Arabiourrutia and Dr. Rubén López, both from the UPV-EHU.

November 30th, 2018



Oscar Condoni, Elena García, Xabier Sukunza, Mayra Suarez and Juan Trueba defended their final project master thesis in the conference room of the ETSIIT of the University of Cantabria. The evaluation committee

was formed by Prof. Raquel Ibáñez, from the University of Cantabria, Dra. Miriam Arabiourrutia and Dr. Rubén López, both from the UPV-EHU.



LECTURES AT OUR DEPARTMENT

“Fuentes de energía renovables: pilas de combustible microbianas para obtención de electricidad a partir de efluentes residuales y producción de biocombustibles en medio supercrítico”

Dr. Víctor Manuel Ortiz - Chemical Engineering Department of the Chemistry Faculty - University of Murcia

January 24th, 2018



“New paradigms for optimization of large-scale chemical processes”

Prof. Lorenz T. Biegler - Chemical Engineering Department - Carnegie Mellon University

January 29th, 2018



“Estudio de reacciones electrocatalíticas con el microscopio electroquímica de barrido (SECM)”

Dr. Carlos M. Sánchez Sánchez - Laboratoire Interfaces et Systèmes Electrochimiques - LISE-UMR - Université Pierre et Marie Curie (UPMC)

February 8th, 2018



“Engineering ion-polymer interactions for chemical separations and functional materials design”

Dr. Jason E. Bara, Associate Professor in the University of Alabama

September 27th, 2018



INVITED LECTURES

"Cambio climático ¿qué hacer?"

Prof. Ángel Irabien

Open Chair of the historian Jose Luis Casado Soto

Conference room of the Real Club de Regatas de Santander

February 12th, 2018



"Lecture on electrochemical processes for CO₂ conversión"

Dr. Manuel Álvarez-Guerra

Sixth Annual International Sulcis Summer School on Carbon Capture, Utilization and Storage (CCUS) Technologies 2018

Sotacarbo Research Center in Carbonia, Sardinia (Italy)

June 18th – 22nd, 2018



"¿Cuáles son las técnicas más sostenibles en la industria de conservas de anchoas?"

Dr. María Margallo

Conference in the frame of her stay at the Pontificia Universidad Católica del Perú.

March 15th, 2018

Charla Magistral | ¿Cuáles son las técnicas más sostenibles en la industria de conservas de anchoas?



INVITED LECTURES

“Outcomes of the project IKI”
Dr. María Margallo
Conference cycle in the frame of the project IKI, related to the mitigation of greenhouse gases in the environmental assessments of landfill sites in Peru.
March 2018



“Gestión Sostenible del Agua en la Industria”
Prof. Inmaculada Ortiz
“Criterios de sostenibilidad en la industria” Prof. Ángel Irabien
Summer Course “Gestión sostenible en la industria”, organized by the International University of Andalucía - Málaga
July 10 - 13th, 2018



INVITED LECTURES

"Introduciendo el concepto de ecodiseño: una oportunidad para la innovación"

Dr. Rubén Aldaco

Seminar at Campus Pontificia Universidad Católica del Perú (PUCP) – Lima (Peru)

February 5th-8th, 2018

"Estrategias de producción y consumo de alimentos para la mitigación del cambio climático"

Dr. Rubén Aldaco

Seminar at Campus Pontificia Universidad Católica del Perú (PUCP) – Lima (Peru)

February 13th, 2018



PUCP

"Estrategias Integrales para la Prevención de Residuos Alimentarios"

Dr. Rubén Aldaco

Seminar at Universitat Pompeu Fabra – Barcelona, during the celebration of the European Waste Week.

November 22nd, 2018



**Universitat
Pompeu Fabra
Barcelona**

NETWORKS AND COLLABORATIVE PROJECTS



EAPA_204/2016 – “Atlantic Network for Renewable Generation and Supply of Hydrogen to Promote High Energy Efficiency - HYLANTIC”

October 2017 – September 2020

Follow-up Meetings

July 4th, 2018

Inmaculada Ortiz, Alfredo Ortiz and Gema Pérez attended the 1st follow-up meeting of HYLANTIC Project celebrated in Dublin (Ireland). During the meeting, eleven partners of different institutions of the Atlantic Area, presented their progresses in the project and discussed about the future actions to be done before the next meeting.



November 6th, 2018

Alfredo Ortiz, María José Rivero, Gema Pérez and Rafael Ortiz attended the 2nd follow-up meeting of HYLANTIC Project celebrated in Brest (France). During the meeting, sixteenth partners of different institutions of the Atlantic area, presented their progresses in the project and discussed about the future actions to be done before the next meeting.



NETWORKS AND COLLABORATIVE PROJECTS

EAPA_204/2016 – “Atlantic Network for Renewable Generation and Supply of Hydrogen to Promote High Energy Efficiency - HYLANTIC”

October 2017 – September 2020



Seminars & Training Sessions

February 28th, 2018

Alfredo Ortiz, as coordinator of HYLANTIC Project, attended the training session for lead partners of projects approved in the 1st call, celebrated in Porto (Portugal). The aim of the event, organized by the Joint Secretariat and the Managing Authority of Interreg Atlantic Area, was to provide the necessary guidance for the smooth start of all projects, with focus on the programme requirements, financial circuits, communication aspects and the presentation of the main tools to help projects in their implementation.



April 10th, 2018

Dr. Alfredo Ortiz, as coordinator of HYLANTIC Project and Dr. Javier Pinedo on behalf of APRIA Systems, attended the seminar “Seminario Financiero para Beneficiarios y Controladores” of the INTERREG ESPACIO ATLÁNTICO: PROYECTOS PRIMERA CONVOCATORIA programme, celebrated in Madrid. The event was organized by the Ministry of Finance and Public Function through the General Directorate of European Funds.



NETWORKS AND COLLABORATIVE PROJECTS



EAPA_204/2016 – “Atlantic Network for Renewable Generation and Supply of Hydrogen to Promote High Energy Efficiency - HYLANTIC”
October 2017 – September 2020

Visits

May 7th, 2018

Inmaculada Ortiz, Daniel Gorri, Alfredo Ortiz and Rafael Ortiz visited the Universidad Pública de Navarra (Campus de Arrosadía), located in Pamplona to visit the facilities in which are set the internal combustion engines of the research group of L.M. Gancía, P.M. Diéguez and J.C. Urroz of the ETSIIT of the University of Cantabria. After this visit, Rafael Ortiz has performed several experiments in collaboration with this research group, in the frame of HYLANTIC Project.

June 7th, 2018

Alfredo Ortiz, Rafael Ortiz and Sergio San Martín visited the Company Hidrógena, located in Segovia (Spain).

Hidrógena is the supplier of the electrolyzer that will be used for hydrogen production testing, within the European project HYLANTIC. After visiting the company's facilities and the products that are currently under production, the supplied electrolyzer was adjusted to the project demands and the researchers were trained by the expert manufacturer to use it.



NETWORKS AND COLLABORATIVE PROJECTS



EAPA_204/2016 – “Atlantic Network for Renewable Generation and Supply of Hydrogen to Promote High Energy Efficiency - HYLANTIC”
October 2017 – September 2020

Summer Course

September 9th – 21st, 2018

Rafael Ortiz attended to the “Joint European Summer School on Fuel Cell, Electrolyser and Battery Technologies (JESS 2018)” celebrated in Athens, Greece, organized by the University of Birmingham, the Technical University of Denmark (DTU), Forschungszentrum Jülich and Ulster University.

. The summer school consisted on various topics and Rafael participated on “Low Temperature Fuel Cells and Electrolysers (PEFC, alkaline & PEM)” in the first week and “The Modelling Master Class” in the second week.



NETWORKS AND COLLABORATIVE PROJECTS



“ENERGETIC SUSTAINABILITY AT THE SUDOE REGION:
PEMFC-SUDOE NETWORK - SOE1/P1/E0293 (INTERREG SUDOE/FEDER, UE)”
July 2016 – June 2019

Follow-up Meeting

May 25th, 2018

Alfredo Ortiz and María José Rivero attended the annual follow-up meeting of the european project PEMFC-SUDOE, celebrated in Le Phare de la Mediterranee Centre des Congress in Palavas-les-Flots (Montpellier). All the partners presented the progress made during the second year of the project.



Advocacy Bootcamp

June 28 - 29th, 2018

Alfredo Ortiz, as coordinator of the european project PEMFC-SUDOE attended the 2018 Advocacy Boot Camp celebrated in Faro (Portugal). The aim of the event was to train partners in the promotion and lobbying in the marketing and capitalization actions of on-going Interreg-Sudoe projects. The participants were trained in specific strategies, political influence, storytelling and digital communication.



NETWORKS AND COLLABORATIVE PROJECTS



Hydrogen Meeting

May 25th, 2018

Alfredo Ortiz as coordinator of the European Projects "Energetic Sustainability at the SUDOE Region: PEMFC-SUDOE region" and "Atlantic Network for Renewable Generation and Supply of Hydrogen to Promote High Energy Efficiency - HYLANTIC", participated in the "European Regional Workshop on Hydrogen and Fuel Cells", celebrated in the conference room of SODERCAN facilities, in Santander (Spain).



NETWORKS AND COLLABORATIVE PROJECTS



Interreg
Sudoe
KET4F-Gas



you can cool it!

“Reduction of the environmental impact of fluorinated gases in the SUDOE space using key enabling technologies”

April 2018 – March 2021

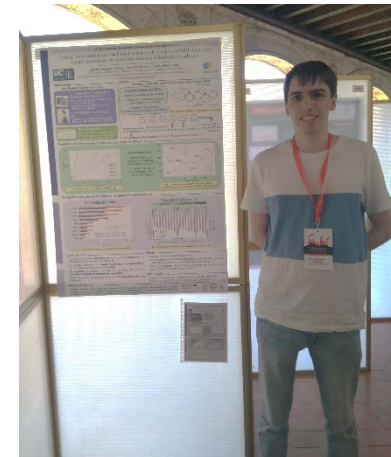
April 10th, 2018

The KET4F-gas project, funded by the Interreg-Sudoe second call, has been launched. The 1st preparatory meeting of the KET4F-Gas project took place in the UC. The Department of Chemical and Biomolecular Engineering hosted the meeting with the participation of partners coming from Portugal, France and Spain and covering 7 different regions in the South Western European SUDOE area. KET4F-Gas project has the objective of developing and demonstrating key enabling technologies to avoid the emission of HFC gases used in refrigeration with high global warming potential, according to the objectives of the Kigali amendment to the Montreal protocol.



July 4 - 6th, 2018

UC and the IQS School of Engineering (Universitat Ramon Llull), partners of the KET4F-Gas project, presented a communication at the XXXV National Conference of Chemical Engineering, that was held in Salamanca (Spain). Preliminary results on the thermodynamic evaluation of the use of ionic liquids for the selective separation of hydrofluorocarbons using the soft-SAFT state equation were presented.



NETWORKS AND COLLABORATIVE PROJECTS



“Reduction of the environmental impact of fluorinated gases in the SUDOE space using key enabling technologies”

April 2018 – March 2021

December 3-6th, 2018

The 2nd meeting of KET4F-Gas project took place last week in the University of Clermont-Ferrand (France). KET4F-Gas is aimed at the R&D of key enabling technologies for the recovery of fluorinated gases, used as refrigerants in freezers and air conditioning systems. The Chemical & Biomolecular Engineering Department of UC was represented by Dr. Gabriel Zarca and Prof. Ane Urtiaga, who are involved in the development of membrane gas separation technologies. The project is supported by the INTERREG-SUDOE Program, that promotes territorial cooperation among regions located in the South West of Europe.

The scientific results of the project were presented in the congress 19th European Meeting on Environmental Chemistry, that was held in Royat (France) with the communication entitled “Membrane technology for the separation and recovery of fluorinated gases used as refrigerants”.



NETWORKS AND COLLABORATIVE PROJECTS

LIFE2 **acid**

“LIFE-2-ACID – (LIFE16 ENV / ES / 000242)”

July 2017 – December 2020

Follow-up Meetings

July 13th, 2018

Prof. Ane Urtiaga and Andrea Arguillarena participated in the follow-up meeting of project LIFE-2-ACID, that took place in the facilities of AIDIMME (Valencia).

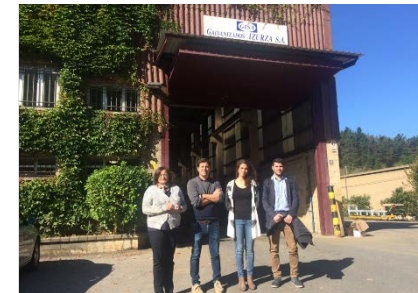



October 25th, 2018 – Visit to a company

Prof. Ane Urtiaga and Andrea Arguillarena, on behalf of the UC and Dr. Javier Pinedo, representing Apria Systems, visited the production facilities of the company Galvanizados Izurza (GISA), located in Izurza (Bizkaia). This visit, which is part of the activities of project LIFE2ACID.

September 20th, 2018

A technical and financial monitoring meeting of the LIFE-2-ACID project was held in the facilities of the University of Cantabria. The monitor in charge of assisting the European Commission in the follow-up of LIFE-2-ACID evaluated the technical and financial progress of the project in order to justify the first annuity.



 LIFE - 2 - ACID está cofinanciado por el programa LIFE de la Unión Europea
(Grant Agreement No. LIFE16 ENV/ES/000242)

NETWORKS AND COLLABORATIVE PROJECTS



EXCELLENCE NETWORK "E3TECH Environmental and Energy Applications of Electrochemical Technology" 2015-2018

Follow-up Meetings

July 4th, 2018

Prof. Ane Urriaga attended the meeting of the Network of Excellence E3TECH, celebrated in Madrid.

During the meeting, The funding of the network was renewed by the Ministry of Science, Innovation and Universities, with the reference CTQ2017-90659-REDT.

Congress

July 4th, 2018

Prof. Ane Urriaga participated in the XXXIX Meeting of the Electrochemistry Group of the RSEQ and 3rd E3 Mediterranean symposium Electrochemistry for Environment and Energy, celebrated in Madrid, with the talk "Progress in the electrochemical degradation of poly- and perfluorinated compounds"



NETWORKS AND COLLABORATIVE PROJECTS

Follow-up Meetings

September 10- 12th, 2018

Dr. María José Rivero attended the **V National Meeting of Photocatalysis Groups and 2018 Joint UK&Ireland/Spain Semiconductor Photochemistry Meeting**, celebrated in Las Palmas de Gran Canaria (Spain). During the events María José presented the work: M.J. Rivero, R. Ibáñez, A. Urtiaga, I. Ortiz. Challenges and developments in water treatments.



SEMINARS , COURSES & WORKSHOPS

January 25th, 2018



Beatriz Gómez, Paula Ribao and Sandra Sánchez took part in a seminar to report the outcomes of their research stays in International Research Institutions.

Beatriz, who developed her research stay at the School of Mines of Colorado (USA) took about “Sequential treatments of poly- and perfluoroalkyl substances in AFFF-impacted water by UV activated persulfate oxidation and hydrated electron reduction”; Paula, who spent 3 months at the Laboratório Nacional de Energia e Geologia (LNEG) in Portugal, spoke about “Challenges arising from

the use of TiO_2 -rGO-Pt photocatalysts to produce hydrogen from crude glycerol compared to synthetic glycerol”; and Sandra, who developed the research stay at the Oxford Institute of Biomedical Engineering (IBME), in the United Kingdom, talked about “Polycaprolactone/graphene-based nanoparticles composite membranes to induce stem cells differentiation and maturation into neural-like cells”

February 5th, 2018

Raúl Zarca and Jenifer Gómez gave a seminar to report the outcomes of their research stays in international research institutions. Raúl talked about Optimization of a Hybrid Membrane-Distillation Process for Polymer-Grade Propylene Production, work performed during his stay at the Department of Chemical Engineering of the Carnegie Mellon University (USA) working under the supervision of Prof. Larry Biegler.

Jenifer presented her work “On Chip Polyelectrolyte Coating onto Magnetic Droplets”, developed during her stay at the School of Mathematics and Physical Sciences of the University of Hull (United Kingdom) working under the supervision of Prof. Nicole Pamme.



SEMINARS , COURSES & WORKSHOPS

February 2018

Clara Casado, on behalf of ST-Cantabria RSEQ, participated in the training sessions for ESO and Bachillerato teachers of the "II Crystallization Contest in the School", where she gave the conference "Frente al reto del cambio climático: Intensificación de la captura de CO₂ con membranas"



February 12 – 13th, 2018

The PhD. students of the Chemical & Biomolecular Engineering Department, Marta Romay, Cristina González, Azucena Abejón, Laura Ulloa, Sergio Castro, Aitor Marcos, Guillermo Díaz and Pedro Díaz, attended the seminar "Curso Básico – Bloque I", organized by the Doctorate Training School of the University of Cantabria.



February, 23-29th, 2018

Claudia Solá and Cristina González attended the seminar "DL_Software Training Workshop 2018", celebrated in Warrington (United Kingdom).

SEMINARS , COURSES & WORKSHOPS

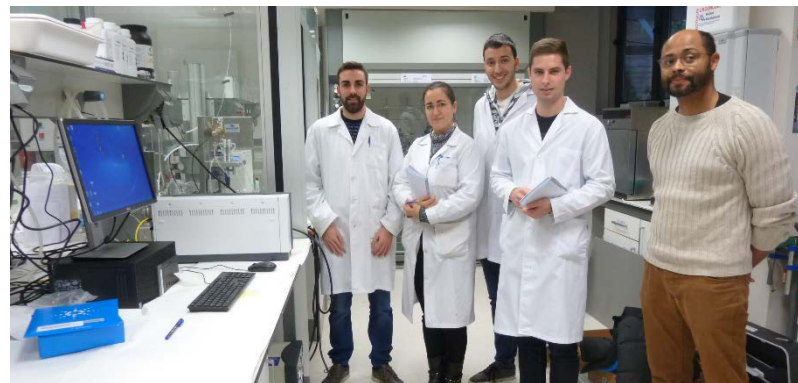
February 8 – 9th, 2018

Ana Hernández, Azucena Abejón, Sergio Castro, Aitor Marcos, Guillermo Díaz, Pedro Díaz and Sandra Sánchez participated in the “ERA CAREER DAY: Diseña tu futuro profesional”, organized by the EDUC.



March, 2018

Beatriz Arce, Guillermo Díaz, Sergio Castro and Iván Merino were trained in the management of the Micro GC equipped with TCD detector, acquired by the Department, by an expert of the Company Ingeniería Análítica S. L.



April 11 – 13th, 2018

Jenifer Gómez attended the VI Doctorate Days and Scientific Dissemination of Group 9 of Universities (G-9), that was held at the University of Cantabria. Jenifer was selected to participate in this event on behalf of the University of Cantabria in the area of Engineering and Architecture, together with 90 PhD. students from all over Spain.



SEMINARS , COURSES & WORKSHOPS

April 19 - 20th, 2018

Prof. Raquel Ibáñez attended the International Spring School and Water Reclamation and Reuse, celebrated in Izmir (Turkey). She presented the work entitled "Combining Membrane Filtration and Electrochemical Oxidation for the Removal of Pharmaceuticals from a WWTP secondary effluent".



May 30th, 2018

Elena Manteca and Gema Pérez attended the "1st Symposium on Marine Corrosion: Industry and Scientific Challenges in Marine Corrosion", organized by CTC (Centro Tecnológico de Componentes). Several lectures on marine corrosion were delivered by experts in this field. After a networking lunch, the attendants visited the Marine Corrosion Test Site "El Bocal" and the Company DEGIMA.

May 2018

Beatriz Arce, Gema Pérez and Ana Hernández were trained in the operation and analytical applications of the MP-AES acquired by the Chemical & Biomolecular Engineering Department.



SEMINARS , COURSES & WORKSHOPS

May 31st, 2018

Beatriz Arce, Guillermo Díaz, Gema Pérez and Sonia Gómez attended the Seminar on Ion Chromatography organized by Gomensoro and Metrohm at EHU/UPV PiE, in Plentzia. During the event they had the opportunity of speaking with experts in ion chromatography about the alternatives that offers this technique and they could see the ion chromatograph developed by Metrohm.



July 13th, 2018

Aitor Marcos and Fernando Pardo attended the "2nd Workshop of the PROMECA PROJECT ON MEMBRANE Development and Membrane Reactors", celebrated on July 13th, 2018 in the central office of TECNALIA in San Sebastian (Spain).

July 10-13th, 2018

Sophie Schröder and Laura Ulloa, PhD. students of the Chemical & Biomolecular Engineering Department of the University of Cantabria attended the Summer Course "La Sostenibilidad en la Industria de Procesos", organized by UNIA (Universidad Internacional de Andalucía), that took place in Málaga (Spain).



SEMINARS , COURSES & WORKSHOPS

October 30th, 2018

María José Rivero, Lucía Gómez, Victor Manuel Ortiz and Guillermo Díaz attended the Workshop "Sesión formativa sobre mentoría", organized by CISE and given by Rafael Ruiz Bada (Civil Engineer), related to the project "Amenturate". The workshop took place in the Centro Internacional Santander Emprendimiento.



SEMINARS , COURSES & WORKSHOPS

June – July 2018

The Chemical, Energy and Process Engineering Doctorate program organized the annual Doctorate seminars. The aim of the seminar is to promote the training of PhD students and disseminate their research activities. The seminar, open to the members of the doctorate program and to general public, included the assessment of the doctorate students' progress by the academic panel of supervisors.

The PhD. students presented their research progress, in the following topics:

Environmental Technologies for Treatment of Liquid Effluents and Wastewaters

Electrochemical Technologies

Membrane Technologies

Chemical Engineering & Energy

New Products / New Technologies

Environmental Management



CHEMISTRY OLYMPIAD

April 6th, 2018

The Association of Chemistry and Chemical Engineering of Cantabria (AQUIQÁN) in collaboration with the Spanish Royal Society of Chemistry (RSEQ) organized the Local Chemistry Olympiad at the ETSIIT of the University of Cantabria. In this edition, over 70 secondary school students participated.



April 18th, 2018

The Award Ceremony of the Chemistry Olympiad took place. During the event the students Jorge Martín (IES Marqués de Manzanedo, Santoña), David Ignacio Alcántara (IES Marqués de Santillana, Torrelavega) and Jiaze Zhang (IES Marqués de Santillana, Torrelavega) received the gold, silver and bronze medals, respectively, in recognition of their excellent participation in the Local Chemistry Olympiad.



May 5th, 2018

Jorge Martín, David Ignacio Alcántara and Jiaze Zhang attended the National Chemistry Olympiad, celebrated in Salamanca. Jorge Martín was proclaimed winner of the National Chemistry Olympiad.



CHEMISTRY OLYMPIAD

May 31st, 2018

The University of Cantabria organized a ceremony to recognize the participation of high school and secondary school students in the different thematic areas of the 2018 Olympiads and Miniolympiads. Jorge Martin was one of the protagonist, as he was the winner of the National Chemistry Olympiad, celebrated in Salamanca last May 5th, 2018. David Alcántara, second prize at the Local Chemistry Olympiad, also attended the ceremony.



May 31st, 2018



Jorge Martín was received by the Education Counselor of Cantabria, Mr. Francisco Fernández Mañanes, who congratulated him and highlighted the increasing interest in all aspects related to Chemical Engineering among the High School students in Cantabria. Jorge Martin was accompanied by his Chemist teacher, Ms. Teresa Catalán and the head of his school, Mr. Jaime Martín, the Head of the Chemical & Biomolecular Engineering Department, Prof. Ángel Irabien, the President of the Chemistry Olympiad of Cantabria, Dr. Jose María Colina and the President of AQUIQÁN, Dr. Manuel Álvarez.

July 19 - 29th, 2018

Jorge Martin won the Bronze Medal in the 50th International Chemistry Olympiad celebrated in Bratislava, Slovakia. In this edition 300 students participated in the event after being classified in the different National Chemistry Olympiads of each country.



CHEMISTRY MINI-OLYMPIAD

May 11th, 2018

The IV Chemistry Miniolympiad took place in Cantabria. 82 ESO students 3rd and 4th levels, attended the event, that was organized by the Chemistry and Chemical Engineering Association of Cantabria (AQUIQÁN-ANQUE), in collaboration with the Cantabria Territorial Section of the Spanish Royal Society of Chemistry (RSEQ).

In this edition the winners were:

3rd ESO:

1st: Iván Jesús Melero López (IES Jose María Pereda, Santander)

2nd: Miguel Sáiz Andrés (Colegio Sagrada Familia, Herrera de Camargo)

3rd: Estíbaliz Sáez de Astiazu Mañes (IES Ocho de Marzo, Castro Urdiales)

4th ESO:

1st: Noelia Estévez Cabrero (IES Valle de Camargo, Revilla de Camargo)

2nd: Ana Laborda Pérez (Colegio Jardín de África, Santander)

3rd: Nicolás Alonso Mínguez (IES Villajunco, Santander)



EVENTS

Saint Thomas Aquinas – January 26th, 2018

The Solemn Act of Investiture of the New Doctors took place on the occasion of the celebration of Saint Thomas Aquinas. During the ceremony Mariana Díaz, Pablo Fernández, Carolina Fernández, Lucía Gómez and Mariano Puente were nominated as Doctors of the University of Cantabria.



Meeting with Post-graduates – March 21st, 2018

AICHE Universidad de Cantabria Student Chapter, in collaboration with AQUIQÁN, organized a meeting with former graduates in Chemical Engineering. Mariana Díaz and Pablo Fernández, PhDs in Chemical Engineering, talked to the audience about their professional experience in the companies Dynasol and Moehs Cantabra S.L. Moreover, Alberto Romero, Master in Chemical Engineering, spoke about his development in Nestle.



Meeting “Encuentros con el Talento” – March 15th, 2018

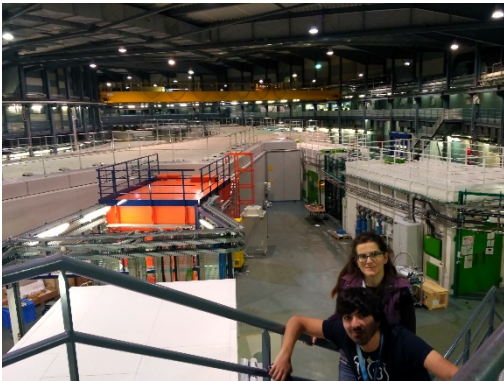
The ETSIIT of the UC organized the meeting “Encuentros con el Talento”, aimed at connecting companies related to the studies taught in the School of Engineering with students, academics and research groups. Sara Domínguez, who defended her thesis last year in our department, participated in the event on behalf of the company APRIA SYSTEMS.



EVENTS

Analysis in the Synchrotron ALBA – April 17th, 2018

Clara Casado and Aitor Marcos had the opportunity of characterizing the membrane materials that they prepare in our labs, in the synchrotron ALBA, located in the Autonomous University of Barcelona, Campus Bellaterra. These measurements were developed in the frame of the project "Completing the chemical characterization of metal chitosan based ion exchange membranes for electrochemical devices".



UC-ENSA-CTC Day – May 2nd, 2018

Prof. Ane Urriaga, on behalf of the Chemical & Biomolecular Engineering Department, attended the VIII Annual Meeting of UC, ENSA and CTC, aimed at exploring new collaborative opportunities.

Meeting – April 18th, 2018

Prof. Ane Urriaga attended the meeting of the Technical Group for the Monitoring of Persistent Organic Pollutants and Stockholm Convention in Spain, that took place in the Ministry of Agriculture, Fishing, Food and Environment (Madrid). During the event, Prof. Urriaga presented the study on dioxins and furans characterization in samples from the Bailin (Sabiñanigo) landfill site, that was commissioned by the Aragón administration to the SERCROM-UC analytical facility.



MINISTERIO DE
AGRICULTURA Y
PESCA, ALIMENTACIÓN
Y MEDIO AMBIENTE

SECRETARÍA DE ESTADO DE MEDIO
AMBIENTE
DIRECCIÓN GENERAL DE CALIDAD Y
EVALUACIÓN AMBIENTAL Y MEDIO
NATURAL



EVENTS

Crystallization Contest – June 2nd, 2018

Clara Casado-Coterillo, on behalf of the Cantabria territorial section of the RSEQ, took part in the evaluation committee of the II Crystallization-at-School Contest celebrated last June 2, 2018 at the Paraninfo of the University of Cantabria. Students coming from 26 secondary and high schools participated in this edition. The event was organized by the University of Cantabria in collaboration with the RSEQ and the Consejería de Educación, Cultura y Deporte of the Government of Cantabria.



ECO-DESIGN Exhibition – June 11th, 2018

Students of the Master in Chemical Engineering enrolled in the course Life Cycle Assessment of Processes and Products showed their works in the hall of the ETSIIyT of the University of Cantabria last June 11th, 2018. The students used eco-design strategies and tools in their works to propose newly eco-designed products.



EVENTS

XXXV Jornadas Nacionales de Ingeniería Química – July 4th - 6th, 2018

Members of the Chemical & Biomolecular Engineering Department attended the 35th Meeting of Chemical Engineering in Salamanca.

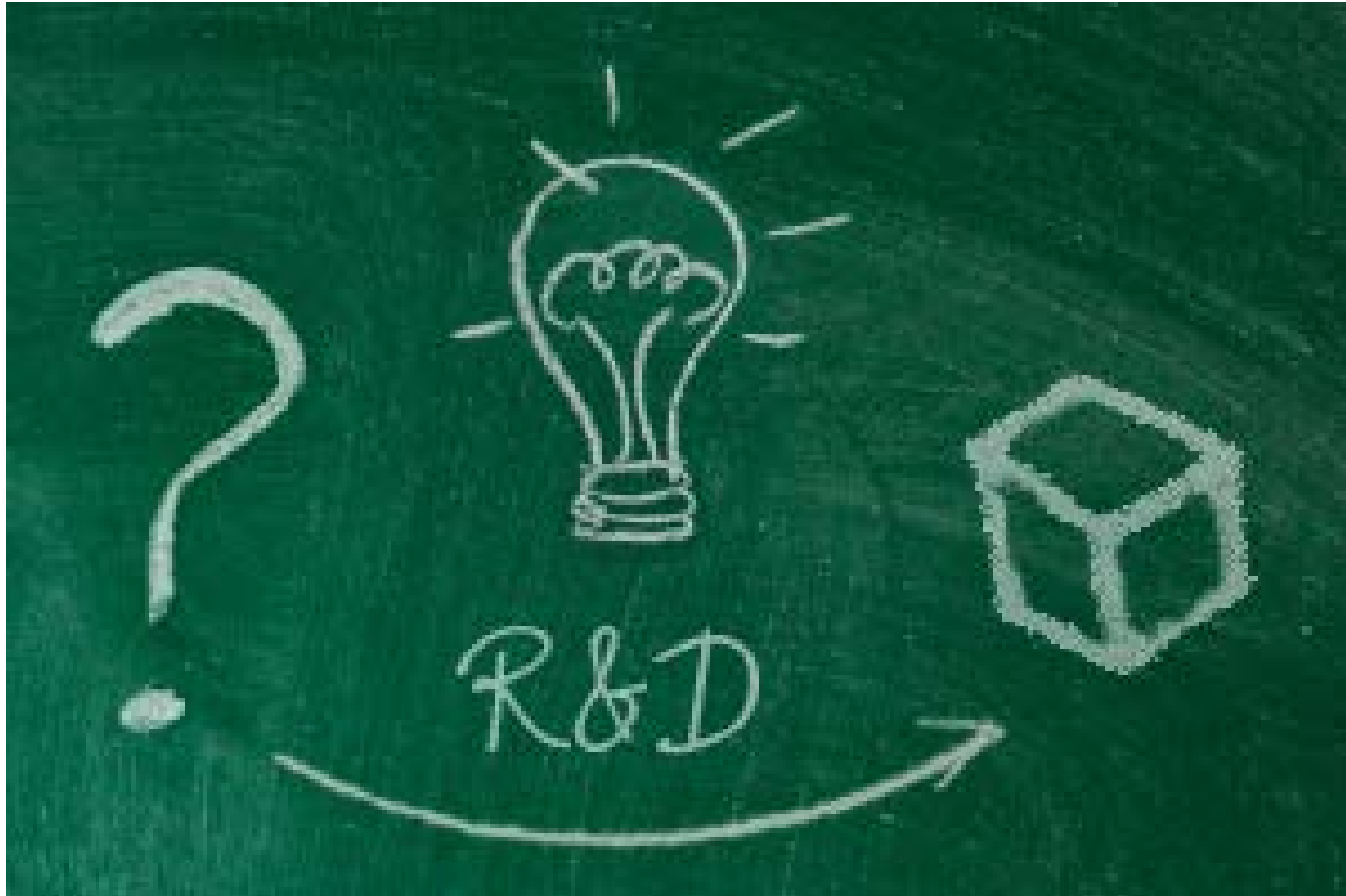
The students of the Chemical Engineering degree Carlota Guati and Salvador Asensio and the student of the master degree Jose Manuel Vadillo presented their posters and flash oral presentations with great success.

Prof. Inmaculada Ortiz took part in the round table of State of the Art in Chemical Engineering introducing the progress made on Membrane Technology. Prof. Juan José Rodríguez (Universidad Autónoma de Madrid), Prof. Antonio Monzón (Universidad de Zaragoza), Prof. Gumersindo Feijoo (Universidad de Santiago de Compostela) and Prof. José Mario Díaz (Universidad de Oviedo), and authorities of USAL, also participated in the Round Table.

Prof. Angel Irabien presented the forthcoming ANQUE International Congress that will take place in Santander from July 19th-July 21st 2019.



R&D OUTCOMES



VISITS

May 14th, 2018

Francisco Vicente Pedros, Full Professor in the area of Chemical-Physics in the University of Valencia, visited the Chemical & Biomolecular Engineering Department of the University of Cantabria. He presented his expertise on electrochemical characterization techniques and discussed with the research groups of the CBE department about the possibilities of collaboration between both institutions in the field of electrochemical processes, e.g.: CO₂ capture, water treatment and clean energy production.

September 28th, 2018

A delegation of the company Dynasol visited facilities of the Chemical & Biomolecular Engineering Department, where the research groups presented their scientific background in topics related to polymer materials and process engineering, materials characterization techniques and present applications of new polymer and composite materials in the areas of energy and medical devices, water treatment, CO₂ capture and transformation, etc.



VISITS

July 2018

Prof. Raquel Ibáñez and Dr. María Margallo, professors of the Chemical and Biomolecular Engineering Department, within the technician on the International Relationships Service of the University of Cantabria, Pablo Díaz, had the opportunity of performed a short stay in the Shamoon College of Engineering (SCE) in Israel, in the frame of the bilateral international mobility agreement Erasmus+KA107 (project 2016-1-ES01-KA107-023213). UC Delegation was completed by Pablo Díaz, administrative personnel in the International Relations Office of the UC.

During the visit they the UC delegation met with the supervisors of different several chemical engineering departments groups of the Beer-Sheve and Asdhot, in order to discuss about the mobility of master and doctorate students between both institutions, improving the collaboration in common research fields and establishing relationships that to encourage the joint participation in different projects in the future.

Moreover they could visit places that are in the common imagination, like the Dead Sea or Jerusalem.



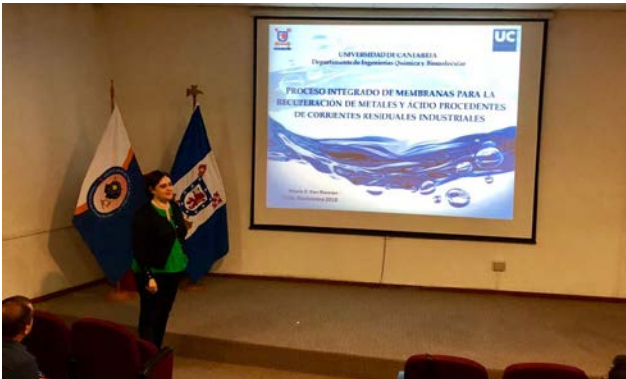
VISITS

November 2018

Dr. María Fresnedo San Román and the doctorate student Sophie Schröder visited the Chemical Engineering Department of Universidad de Santiago de Chile-Usach, from November 4th to 11th, 2018. During the visit they delivered 3 presentations for students and faculty members of the “Magister en Ciencias de la Ingeniería”, with a Mention in Chemical Engineering. They also performed several experiments of micro-extraction with supercritical fluids in the membrane lab of the Chemical Engineering Department.

Moreover, they attended research meetings with the academic authorities of Usach, aimed at looking for new UC-Usach institutions.

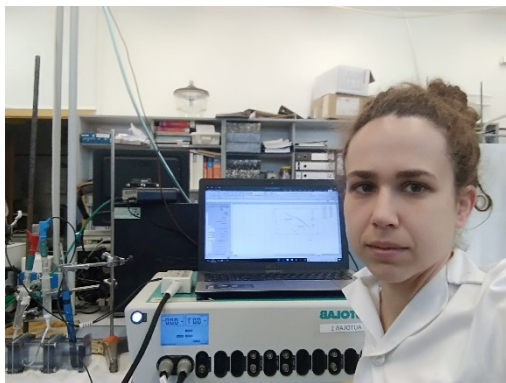
On the other hand, they have also visited the Universidad Católica de Chile to meet professors R. Tapía, M. Isaac and A. Giordano, and the Universidad de Chile to meet professors R. Contreras, R. Ormazabal and S. Gallardo, in the frame of the development of new future collaboration focused on research.



VISITS

June 18th - 22nd, 2018

Dr. Lucía Gómez, researcher of GRADISAL Project at the Chemical & Biomolecular Engineering Department of the University of Cantabria, visited the Electrochemistry and Corrosion Research Group of the Polytechnic University of Valencia. During her visit she had the opportunity of being trained in membrane characterization by using electrochemical techniques, under the supervision of Prof. Valentin Perez Herranz.

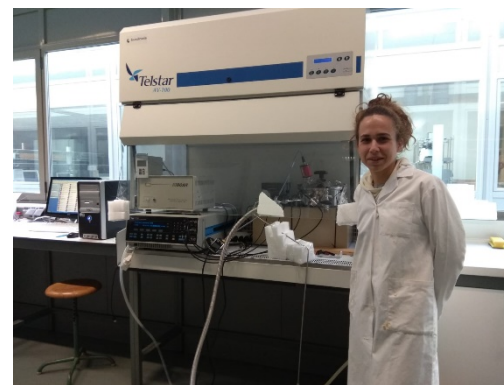


July 9th – 11th, 2018

Sandra Sánchez visited the Chemistry-Physics Research Group of the University of Valencia with the aim of measuring the electric impedance of different materials, under the supervision of Prof. Francisco Vicente Pedros.

June and October 2018

Dr. Lucía Gómez, researcher of GRADISAL Project visited the Department of Applied Physics of the University of Valladolid in two different periods: July 16th – 20th, and October 1st – 5th, to perform several test on membrane characterization, related to the development of the project activities.



VISITS

March 21st, 2018

The course on Best Available Technologies for the Process Industry, part of the Master program in Chemical Engineering (UC-UPV/EHU), organized a visit to the production facilities of the company Aditya Birla - Columbian Carbon Spain, located in Gajano (Cantabria). At present Birla Carbon is the only producer of carbon black in the Iberian Peninsula. The visit was preceded by a master lecture on the carbon black process description, delivered by Dr. Jose Luis Fernandez (Process Engineer at Aditya Birla) .



May 4th, 2018

Students of the Chemical Engineering Degree who follow the courses Wastewater Treatment, European Project Semester and Advanced Separation Processes, and the Faculty members Raquel Ibáñez, Eugenio Bringas, Marcos Fallanza and Guillermo Díaz visited the WWTP located at San Román and the Drinking water treatment Plant located in Prezanes. The students had the opportunity to observe conventional and advanced technologies for the sanitation of urban and industrial wastewaters.



RESEARCH INTERNSHIPS

María Margallo Blanco

Research Stay in the frame of the project IKI, related to the mitigation of greenhouse gases in the environmental assessments of landfill sites in Peru at the Pontificia Universidad Católica del Perú.

March 2018



Cristina González Fernández

Predoctoral Research Stay at the Experimental Science Faculty of the University of Huelva - Research Group FILICO (Física de Líquidos Complejos)

Supervisor: Prof. Felipe Jiménez Blas

April 9th – May 3rd, 2018



Selene Cobo Gutiérrez

Predoctoral Research Stay at the North Carolina State University (North Carolina, USA)

Supervisor: Prof. James W. Levis

April 1st – June 30th, 2018



Ignacio Fernández Olmo

Research Stay at the Université du Littoral Côte d'Opale, Unité de Chimie Environnementale et Interactions sur le Vivant.

Aim: Analysis for the assessment of the oxidative potential of particulate matter.

June 13th – 22nd, 2018



Álvaro Soriano Portilla

Predocctoral Research Stay at the Carnegie Mellon University, in Pittsburgh (USA)

Supervisor: Prof. Lorenz T. Biegler

July 7th – September 7th, 2018

Claudia Solá Gutiérrez

Predocctoral Research Stay at the Biogeochemistry and Pollutants Dynamics,
Department of Environmental Systems Science at ETH Zürich

Supervisor: Prof. Kristopher McNeill

September - December 2018

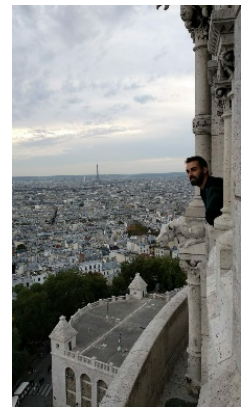


Iván Merino García

Postdoctoral research stay at the Laboratoire Interfaces et Systèmes Electrochimiques, Sorbonne Université,
Paris (France)

Supervisor: Dr. Carlos M. Sanchez Sanchez

October 1st, 2018 – March 31st, 2019



INTERNSHIPS AT THE UNIVERSITY OF CANTABRIA

Omar González

Aguascalientes Institute of Technology

Mexico

September 2017 – March 2018

Supervisors at UC: Prof. Inmaculada Ortiz and Dr. Eugenio

Bringas



Murilo Leite

Universidade Federal da Bahia, UFBA, Salvador, Brasil

Capes Grant

Supervisor at UC: Dr. Alfredo Ortiz

September 2017 – September 2018

AWARDS

Research Prize Juan María Parés 2017 – Prof. Inmaculada Ortiz Uribe – April 9th, 2019

Prof. Inmaculada Ortiz received the Research Prize 2017 of the University of Cantabria Social Council. The Award Ceremony was chaired by the President of the Regional Government, Mr. Miguel Ángel Revilla, in company of the president of the Societal Council, Mr. José Luis Zárate, the Rector of the UC, Prof. Agel Pazos, the President of the Regional Parliament, Mrs. Dolores Gorostiaga and the Vice-President of the Regional Government, Ms. Rosa Eva Díaz. During the event, Inmaculada Ortiz delivered a lecture on the topic Advanced Separation Processes, in which she summarized the main milestones of her research trajectory activity.



AWARDS

Saint Thomas Aquinas, January 26th, 2018

Marta Rumayor

Marta Rumayor, Juan de la Cierva researcher of the Chemical & Biomolecular Engineering Department of the University of Cantabria received the Award to Distinguished PhD Thesis, in the University of Oviedo during the celebration of Saint Thomas Aquinas.



Antía Pérez and Jose Manuel Vadillo

During the celebration of Saint Thomas Aquinas of the University of Cantabria, Dr. Antía Pérez, who defended the doctorate thesis "Integrated Treatment and Valorization of Reverse Osmosis Saline Concentrates", developed in the Chemical & Biomolecular Engineering Department last February 2015, received the Award to Distinguished PhD Thesis in the field of Engineering and Jose Manuel Vadillo received the Best Academic Record among new graduates in the Chemical Engineering Degree.



AWARDS

Saint Joseph, March 19th, 2018

During the celebration of Saint Joseph's Day at the ETSIIT of the University of Cantabria celebrated Saint Joseph's Day several awards were delivered.

Doctorate Programs in the ETSIIT:

Sandra Sánchez Gonzalez "Nuevos polímeros funcionalizados como soporte para el desarrollo de modelos neuronales in vitro", supported by the company Deloitte.

Master in Chemical Engineering:

Sophie Schröder "Análisis de intercambiadores iónicos quelantes como agentes de separación para la gestión de ácidos agotados", supported by the company Apria Systems.

Chemical Engineering Degree:

Jose Manuel Vadillo "Design, building and testing of a Chem-E-Car prototype based on a chemical reaction", supported by the company Solvay Química.

The **Universidad de Cantabria AIChE Student Chapter** gave three prizes awarding the most outstanding contributions to the scientific posters competition:

- 1) **Marian Mantecón** "PCL/rGOmembranes as scaffolds in a perfusion bioreactor for tissue engineering: experimental assessment and modelling"
- 2) **Salvador Asensio** "Modelling of absorption refrigeration using F-gas + Ionic Liquid pairs with the soft-SAFT EoS"
- 3) **Sergio San Martín** "POWER TO GAS: Integration of wind renewable energy for Hydrogen generation as a future energetic vector in the Atlantic area"

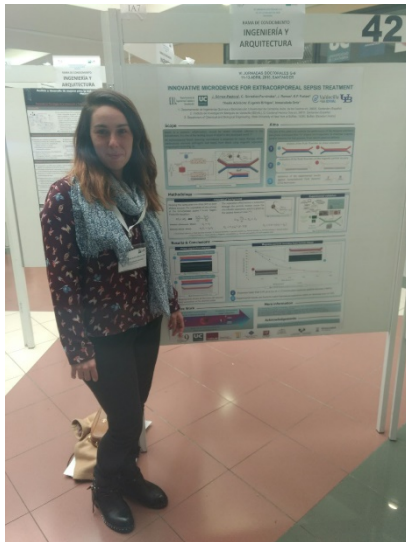
Moreover, **Jose Manuel Vadillo** was awarded with the **AQUIQÁN** prize to the best final project degree.



AWARDS

Jennifer Gómez – G9 Award – April 13th, 2018

Jenifer Gómez received the award of the Best Poster of the VI Jornadas Doctorales del Grupo G9 de Universidades in the field of Engineering for her contribution entitled: Innovative microdevice for extracorporeal sepsis treatment.



Pedro Díaz – Best Poster– June 17th – 20th, 2018

Pedro Díaz, doctorate student in the Chemical, Energy and Process Engineering doctorate program of the UC received the award to the Best Poster of the 9th International Chemistry Congress of ANQUE "Foods and Beverages", celebrated in San Pedro del Pinatar (Murcia, Spain).



PARTICIPATION IN NATIONAL AND INTERNATIONAL ORGANISMS



- President of the Chemical Engineering Group of the RSEQ
- International Academy and Research Evaluator: Slovenian Research Agency, Flandes: FWO Expert Panel, Science Foundation Ireland's, etc.
- Editorial Board Applied Sciences, MPDI

President of the Quality Commission for the Master in Chemical Engineering (UC), 2014-present
Scientific director of the chromatography service (SerCrom) of the Scientific and Technical Research Services of UC, 2016-present
Member of PDI Accreditation Panel UNIBASQ.
Member of the Chemical Sciences and Technology (CTQ) panel, Spanish State Research Agency, Ministry of Science, Innovation and Universities, 2018.



Secretary of the Assessment Committee "Engineering and Architecture" of UNIBASQ, 2012 –
Member of the scientific board of JPI-Water, 2015 –
Associate Editor of the Journal of Chemical Technology and Biotechnology
Committee for the quality assessment of doctorate programs (AQU), Master Programs and research outcomes of the academic staff (UNIBASQ), research grants (IRCSET)

PARTICIPATION IN NATIONAL AND INTERNATIONAL ORGANISMS



Vice-Chair of the program Environmental Technologies of the Technological and Environmental Sciences (CTM) area of the Technical Department of Environment and Natural Resources of the state secretary for Research, Development and Innovation of the Ministry of Economy and Competitiveness

Member of the commission of Conferencia de Directores y Decanos de Ingeniería Química (CODDIQ)

Member of the Quality Commission of the University of Cantabria

Advisor of Cantabria Student Chapter de AIChE

Co-president of the Organizing Committee of the IV CIDIQ

Member of the Scientific Committee of ANQUE-ICCE 2019

Co-President of committee of the Students Congress of ANQUE 2019

Colaboration in the "División de Coordinación, Evaluación y Seguimiento Científico-técnico" of the Agencia Estatal de Investigación, MINECO (until June 30th, 2018)

Coordinator of the Doctorate Programme "Doctorado Ingeniería Química, de la Energía y de Procesos of the University of Cantabria

Steering Committee of the Doctoral School of the University of Cantabria (EDUC)

Member of the Quality Committee of the Doctoral School of the University of Cantabria



INTERNATIONAL PROJECTS

Title: **KET4F-GAS: Reduction of the environmental impact of fluorinated gases in the SUDOE space using key enabling technologies**

Financial support: European Commission

Partners: INTERLUN S.L.; APRIA SYSTEMS, S.L.; UNIVERSITÉ CLERMONT AUVERGNE; TALENCE INNOVATION SUD DÉVELOPPEMENT; UNIVERSITE DE PAU ET DES PAYS DE L'ADOUR; Fundación FUNDECYT-Parque Científico y Tecnológico de Extremadura; FEUGA FUNDACION EMPRESA-UNIVERSIDAD GALLEGA; INSTITUTO QUIMICO DE SARRIA; UNIVERSIDADE NOVA DE LISBOA; NO WASTE - GESTAO E RECUPERAÇÃO DE RESIDUOS LDA; NETRSDS-NETRESIDUOS, UNIPESSOAL, LDA; UNIVERSIDAD DE CANTABRIA; UNIVERSIDAD DE VIGO; XUNTA DE GALICIA.

Coordinator (UC): Gabriel Zarca Lago

Dates: 01/04/2018 – 31/03/2021

Title: **Atlantic Network for Renewable Generation and Supply of Hydrogen to promote High Energy Efficiency EAPA_204/2016**

Financial support: European Commission

Participants: University of Cantabria, coordinator (Spain), U. Porto (Portugal), LNEG (Portugal), Dublin City University DCU (Ireland), University of Brest (France), Ulster University, Hydrogen Safety Engineering and Research Centre (HySAFER), Coleraine, United Kingdom, APRIA SYSTEMS (Spain), UlemCo Ltd Liverpool (UK), Pure Energy® Centre (UK), Auriga Energy Limited (UK), A. Silva Matos (Portugal)

Coordinator UC: Dr. Alfredo Ortiz Sainz de Aja

Scientific PI Prof. Inmaculada Ortiz Uribe

Dates: 01/10/2017 – 30/09/2020

Title: **LIFE-II-ACID**

Financial support: European Commission / APRIA SYSTEMS

Project in collaboration with : MARE S.A., GALVANIZADORA VALENCIANA S.L.U., APRIA SYSTEMS, S.L., INSTITUTO TECNOLOGICO MATALMECANIMICO, MUEBLE, MADERA, EMBALAJES Y AFINES, ASOCIACIÓN DE INDUSTRIAS DE ACABADOS DE SUPERFICIES, UNIVERSIDAD DE CANTABRIA, UNIVERSIDAD POLITÉCNICA DE VALENCIA.

Coordinator (UC): Prof. Ana María Urtiaga Mendía

Dates: 01/07/2017 – 31/12/2020

INTERNATIONAL PROJECTS

Title: **PEMFC-SUDOE: Sostenibilidad energética en la región SUDOE: Red PEMFCSUDOE**

Financial support: Programa Interreg Sudoe apoya el desarrollo regional en el sudoeste de Europa financiando proyectos transnacionales a través del Fondo Europeo de Desarrollo Regional (FEDER).

Participants: University of Cantabria (Coordinator), Université Montpellier. Centre National de la Recherche Scientifique, Universidade do Porto, LNEG - Laboratório Nacional de Energia e Geologia, Institut National Polytechnique de Toulouse, Ariema Energía y Medioambiente. S.L., Apria Systems. S.A, Institut de la Filtration et des Techniques Séparatives. IFTS, NanoInnova Technologies S.L.

Coordinator (UC): Dr. Alfredo Ortiz Sainz de Aja

Dates: 01/07/2016 – 30/06/2019

Title: **X-MEM: “Outperforming functionality: composite/mixed matrix porous materials in membrane-based processes”**

Financial support: Spain: State Research Agency AEI - Ministry of Economy, Industry and Competitiveness (MINECO)

Participants: University of Cantabria (Spain), University of Yamaguchi (Japan), Jerzy Haber Institute of Catalysis and Surface Chemistry de la Academia Polaca de las Ciencias and the Universities of Atilim, Hacettepe and Edge (Turkey).

Coordinator (UC): Dr. Nazely Diban Gómez

Dates: April 2019 – March 2022

EXCELLENCE NETWORKS

Title: **Red de Excelencia de Aplicaciones Medioambientales y Energéticas de la Tecnología Electroquímica – E3TECH**

Financial support: MINECO

Participants: Universidad de Cantabria, Universidad de Barcelona, Universidad de Castilla La Mancha, Instituto de Nanociencia y Nanotecnología de la Universidad de Barcelona, Universidad de Alicante, Universidad Autónoma de Barcelona, Universidad Politécnica de Valencia, Universidad de Vigo, CSIC, Instituto Nacional del Carbón.

Main Researcher at UC: Prof. Ane Urtiaga Mendía

Dates: 2015 - 2018

NATIONAL PROJECTS

Title: **Identificación y cuantificación de las variables responsables de la potencial formación de PCDD/Fs en procesos de oxidación avanzada (CTM2014-58029-R)**

Financial support: MINECO – FEDER, UE

Main Researcher: Dr. María Fresnedo San Román San Emeterio

Dates: 01/01/2015 – 30/06/2018

Title: **Estrategias de recuperación de salmueras (CTM2014-57833-R)**

Financial support: MINECO – FEDER, UE

Main Researcher: Prof. Raquel Ibáñez Mendizábal

Dates: 01/01/2015 – 31/07/2018

Title: **Estrategias de producción alimentaria para la mitigación del cambio climático: Hacia una economía circular de los alimentos (CTM2016-76176-C2-1-R)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Dr. Rubén Aldaco García

Dates: 01/10/2015 – 29/12/2019

Title: **Extracción y purificación de lignina mediante membranas soportadas con líquidos iónicos (CTQ2014-56820-JIN)**

Financial support: MINECO – FEDER, UE

Main Researcher: Dr. Ricardo Abejón Elías

Dates: 01/10/2015 – 30/09/2018

Title: **Nuevos desarrollos en fotocatalisis para aplicaciones medioambientales (CTM2015-69845-R)**

Financial support: MINECO – FEDER, UE

Main Researcher: Dr. María José Rivero Martínez

Dates: 01/10/2015 – 31/12/2018

NATIONAL PROJECTS

Title: **Aplicaciones avanzadas de separación. Modelado y validación experimental (CTQ2015-66078-R)**

Financial support: MINECO – FEDER, UE

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 01/01/2016 – 31/12/2018

Title: **Estrategias avanzadas de integración de membranas y procesos electrocatalíticos y fotocatalíticos para la eliminación de contaminantes persistentes (CTM2016-75509-R)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Prof. Ane Urriaga Mendía

Dates: 30/12/2016 – 29/12/2019

Title: **Dotación Adicional Jonathan Albo Sánchez. Convocatoria Subprograma Estatal de Formación. Ayuda Ramón y Cajal.**

Financial support: MINECO

Main Researcher: Dr. Jonathan Albo Sánchez

Dates: 01/12/2016 – 30/11/2020

Title: **Diseño multiescala de procesos de captura y utilización de dióxido de carbono (CTQ2016-76231-C2-1-R)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Prof. Ángel Irabien Gulías

Dates: 30/12/2016 – 29/12/2019

Title: **Membranas compuestas selectivas y su incorporación en dispositivos microfluídicos (CTQ2016-75158-R)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Dr. Daniel Gorri Cirella

Dates: 30/12/2016 – 29/12/2019

NATIONAL PROJECTS

Title: **Separador magnético en endotoxinas bacterianas (LPS) en el tratamiento de la sepsis (CTQ2015-72364-EXP) (AEI)**

Financial support: MINECO

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 01/05/2017 – 30/04/2019

Title: **Revisión crítica del proyecto ARIADNA: Estudio de sostenibilidad sobre la introducción de un SDDR obligatorio para envases**

Financial support: Escuela Superior de Comer Internacional – Universidad POMPEU FABRA

Main Researcher: Dr. Rubén Aldaco García

Dates: 20/12/2017 – 28/02/2018

Title: **Exposición ambiental a manganeso y otros metales contenidos en material particulado: Bioaccesibilidad, biomonitorización y su asociación con la función neurológica (CTM2017-82636-R) (AEI/FEDER, UE)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Dr. Ignacio Fernández Olmo

Dates: 01/01/2018 – 31/12/2020

Title: **Tecnologías ambientales sostenibles para el aprovechamiento energético de corrientes residuales (CTM2017-87850-R) (AEI/FEDER,UE)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Prof. Raquel Ibáñez Mendizábal

Dates: 01/01/2018 – 31/12/2020

Title: **Aplicación de tecnologías ambientales a matrices líquidas conteniendo contaminantes orgánicos emergentes precursores de la formación de derivados clorados (PCDD/FS) (CTM2017-87740-R) (AEI/FEDER,UE)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Dr. María Fresnedo San Román San Emeterio

Dates: 01/01/2018 – 31/12/2020

NATIONAL PROJECTS

Title: **IMPULRAS: Hacia una mejora tecno-económica de ELOXIRAS®: Control y minimización de subproductos (RTC-2017-6035-2)(AEI/FEDER,UE)**

Financial support: Agencia Estatal de Investigación, FEDER, UE

Main Researcher: Prof. Raquel Ibáñez Mendizábal

Dates: 01/07/2018 – 31/12/2020

REGIONAL PROJECTS

Title: **Desarrollo y aplicación de herramientas para la gestión ambiental de procesos y productos bajo una perspectiva de ciclo de vida**

Financial support: Universidad de Cantabria

Main Researcher: Dr. Rubén Aldaco García

Dates: 24/11/2014 – 23/11/2018

Title: **Estudio para la recuperación de metales no férricos en la fracción fina de escoria de incineración (TF16-XX-002 – SODERCAN/FEDER)**

Financial support: SODERCAN

Participants: Universidad de Cantabria, Tircantabria S.A.

Main Researcher: Dr. Rubén Aldaco García

Dates: 24/11/2014 – 23/11/2018

Title: **Desarrollo y Caracterización de filmes multicapa extruidos en base polimérica aplicando tratamiento de entrecruzamiento mediante radiación ionizante**

Financial support: Vicerrectorado de Investigación – Universidad de Cantabria

Main Researcher: Prof. Ana María Urtiaga Mendía

Dates: 01/02/2015 – 27/02/2019

REGIONAL PROJECTS

Title: **Valorización de cenizas volantes de incineración de RSUS mediante carbonatación**

Financial support: Universidad de Cantabria

Participants: Universidad de Cantabria / SADER

Main Researcher: Prof. Ángel Irabien Gulías

Dates: 01/08/2016 – 31/07/2019

Title: **GRADISAL: Aplicación en Cantabria de la Tecnología EDR (Electrodialisis Reversa) a la obtención de energía renovable marina mediante gradiente salino. Fase I: Viabilidad técnico económica (RM16-XX-046)**

Financial Support: SODERCAN – FEDER

Participants: Universidad de Cantabria, MARE S.A., Apria Systems

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 30/12/2016 – 29/03/2019

Title: **Desarrollo de procesos y productos sostenibles**

Financial support: Universidad de Cantabria

Main Researcher: Prof. Ángel Irabien Gulías

Dates: 14/12/2017 13/12/2019

Title: **Estrategias de ecoinnovación en la industria alimentaria: Aplicación a la industria de destilados**

Financial support: Universidad de Cantabria

Main Researcher: Dr. Rubén Aldaco García

Dates: 10/04/2018 – 09/04/2021

Title: **Estación de trabajo para técnicas de simulación de dinámica de fluidos computacional (CFD) y dinámica molecular (DM) en aplicaciones de la ingeniería química**

Financial support: Universidad de Cantabria

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 15/06/2018 – 30/09/2019

P.A.R. PROJECTS

Title: **Sostenibilidad de la producción en Cantabria**

Financial Support: Universidad de Cantabria

Main Researcher: Prof. Ángel Irabien Gulías

Dates: 10/01/2012 – 09/01/2018

Title: **Desarrollo y aplicación de herramientas para la gestión ambiental de procesos y productos bajo una perspectiva de ciclo de vida**

Financial support: Universidad de Cantabria

Main Researcher: Dr. Rubén Aldaco García

Dates: 24/11/2014 – 23/11/2018

Title: **Resource Efficiency in the Process Industry**

Financial Support: Fundación Leonardo Torres Quevedo

Main Researcher: Prof. Ane Urtiaga Mendía

Dates: 19/05/2017 – 18/05/2019

Title: **Líneas de investigación del grupo de Procesos Avanzados de Separación (REPAS)**

Financial support: Fundación Leonardo Torres Quevedo

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 17/07/2018 – 16/07/2019

Title: **Separaciones con membranas selectivas**

Financial Support: Universidad de Cantabria

Main Researcher: Dr. Daniel Gorri Cirella

Dates: 31/10/2017 – 30/10/2019

P.A.R. PROJECTS

Title: **Nuevas aplicaciones de los procesos avanzados de separación**

Financial support: Universidad de Cantabria

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 27/07/2018 – 26/07/2020

Title: **Avances y Desafíos de la Ingeniería Química**

Financial Support: Universidad de Cantabria

Main Researcher: Prof. Ane Urtiaga Mendía

Dates: 08/09/2018 – 07/09/2020

Title: **Diseño de un proceso de separación con agentes quelantes para la recuperación de metales de corrientes residuales**

Financial support: Universidad de Cantabria

Main Researcher: Dr. Eugenio Bringas Elizalde

Dates: 18/10/2018 – 17/10/2020

R&D CONTRACTS WITH INDUSTRY & ADMINISTRATION

Title: **Ensayos SOSPROCAN: Ensayos e informes de caracterización de muestras sólidas y líquidas mediante ensayos físico-químicos**

Financial support: Fundación Leonardo Torres Quevedo.

Main Researcher: Prof. Ángel Irabien Gulías

Dates: 2008 -

Title: **Estrategias de diseño de producto como contribución al desarrollo de la tecnología de gas**

Financial support: BSH Electrodomésticos España S.L.

Main Researcher: Dr. Alfredo Ortiz Sainz de Aja

Dates: 04/02/2016 – 03/02/2018

R&D CONTRACTS WITH INDUSTRY & ADMINISTRATION

Title: **Proyecto de investigación industrial para el diseño de un proceso de recuperación de Níquel a partir de ácidos residuales industriales.**

Financial support: LUNAGUA S.L.

Main Researcher: Dr. Eugenio Bringas Elizalde

Dates: 02/02/2017 – 30/09/2018

Title: **Desarrollo de un sistema fotocatalítico avanzado para la eliminación de contaminantes emergentes (FOTOEMERG)**

Financial support: OXITAL S.L.

Main Researcher: Dr. María José Rivero Martínez

Dates: 02/02/2017 – 30/09/2018

Title: **Desarrollo de recubrimientos funcionalizados con nanopartículas de grafeno para laminados prelacados con elevada resistencia a la corrosión**

Financial Support: SANTANDER COATED SOLUTIONS

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 06/02/2017 – 25/03/2018

Title: **Valorización de una corriente residual de gases del proceso de producción de negro de carbono**

Financial Support: Columbian Carbon Spain

Main Researcher: Prof. Ane Urtiaga Mendía

Dates: 10/02/2017 – 30/12/2018

Title: **Desarrollo de un nuevo proceso de valorización de ácidos de decapado agotados. Fase III.**

Financial Support: LUNAGUA S.L.

Main Researcher: Dr. Eugenio Bringas Elizalde

Dates: 02/01/2018 – 30/04/2018

R&D CONTRACTS WITH INDUSTRY & ADMINISTRATION

Title: **Evaluación técnica de la recuperación de la energía de gradiente salino contenida en la mezcla salmuera-agua de mar mediante electrodiálisis reversa**

Financial support: ACCIONA AGUA S.A.

Main Researcher: Prof. Inmaculada Ortiz Uribe

Dates: 01/05/2018 – 01/02/2019

Title: **Praderas de Cantabria, alimentos saludables con beneficio ambiental: Producción rentable de leche y carne de vacuno como alimentos con propiedades saludables, con bajo impacto medioambiental y creadores de desarrollo socioeconómico**

Financial Support: Unión de Ganaderos y Agricultores Montañeses (GAM)

Main Researcher: Prof. Ane Urtiaga Mendía

Dates: 14/05/2018-30/11/2018

Title: **Estudio comparativo de tecnologías de desulfuración de humos de barcos**

Financial Support: Solvay Química S.L.

Main Researcher: Prof. Ángel Irabien Gulías

Dates: 17/07/2018 – 31/08/2019

Title: **Tratamiento electroquímico de aguas residuales procedentes de EDAR**

Financial support: CADAGUA S.A.

Main Researcher: Prof. Ana María Urtiaga Mendía

Dates: 16/10/2018 – 15/01/2019

PUBLICATIONS

Abejón, R. **A bibliometric study of scientific publications regarding hemicellulose valorization during the 2000–2016 period: identification of alternatives and hot topics.** ChemEngineering 2, 7. 2018.

Abejón, R., Rabadán, J., Lanza, S., Abejón, A., Garea, Irabien, A. **Supported Ionic Liquid Membranes for Separation of Lignin Aqueous Solutions.** Processes 6, 143 (2018).

Abejón, R., Belleville, M.P., Sánchez-Marcano, J., Garea, A., Irabien, A. **Optimal design of industrial scale continuous process for fractionation by membrane technologies of protein hydrolysate derived from fish wastes.** Separation and Purification Technology 197, 137-146, 2018.

Alaei Shahmirzadi, M.A., Hosseini, S.S., Luo, J., Ortiz, I. **Significance, evolution and recent advances in adsorption technology, materials and processes for desalination, water softening and salt removal.** Journal of Environmental Management 215, 324-377, 2018.

Alguacil F., Diban N., Urtiaga A. **Zinc and iron removal from chromium(III) passivation baths by solvent extraction with Cyanex 272.** Desalination & Water Treatment 133, 252-256. 2018.

Amo, F.J., Abajas-Bustillo, R., Sarabia-Cobo, C., García-Herrero, I., Durá-Ros, M.J., Aldaco, R. **Differences in Food Characterization in the Different Tables and Databases of Nutritional Composition.** Current Developments in Nutrition, Volume 2, Issue 11, 29-30. 2018.

Amo, F.J., Abajas-Bustillo, R., Sarabia-Cobo, C., García-Herrero, I., Durá-Ros, M.J., Aldaco, R. **The nutritional footprint of household food waste: a consumer approach.** Current Developments in Nutrition, Volume 2, Issue 11, 1-4. 2018.

PUBLICATIONS

Batlle-Bayer L, Bala A, García-Herrero I, Lemaire E, Song G, Aldaco R, Fullana P. **National Dietary Guidelines: A potential tool to reduce greenhouse gas emissions of current dietary patterns. The case of Spain.** Journal of Cleaner Production. In press. 2018.

Campos, A.C.C., Dos Reis, R.A., Ortiz, A., Gorri, D., Ortiz, I. **A perspective of solutions for membrane instabilities in olefin/paraffin separations: A review.** Industrial and Engineering Chemistry Research 57, 10071-10085, 2018.

Carrillo-Abad, J., Pérez-Herranz, V., Urtiaga, A. **Electrochemical oxidation of 6:2 fluorotelomer sulfonic acid (6:2 FTSA) on BDD: Electrode characterization and mechanistic investigation.** Journal of Applied Electrochemistry 48, 589-596, 2018.

Casado-Coterillo, C., Fernández-Barquín, A., Valencia, S., Irabien, A. **Estimating CO₂/N₂ Permselectivity through Si/Al = 5 Small-Pore Zeolites/PTMSP Mixed Matrix Membranes: Influence of Temperature and Topology.** Membranes 8 (32), 1-15, 2018.

Castro, S., Albo, J., Irabien, A. **Photoelectrochemical Reactors for CO₂ Utilization.** ACS Sustainable Chemistry & Engineering. 2018. DOI: 10.1021/acssuschemeng.8b03706.

Cobo, S., Dominguez-Ramos, A., & Irabien, A. **Minimization of the resource consumption and carbon footprint of a circular organic waste valorization system.** ACS Sustainable Chemistry & Engineering 6(3), 3493- 3501, 2018.

Cobo, S., Dominguez-Ramos, A., & Irabien, A. **Trade-offs between nutrient circularity and environmental impacts in the management of organic waste.** Environmental Science and Technology 52 (19), 10923-10933. 2018.

Cobo, S., Domínguez-Ramos, A., Irabien, A. **From linear to circular integrated waste management systems: A review of methodological approaches.** Resources, Conservation and Recycling 135, 278-295, 2018.

PUBLICATIONS

Díaz-Sainz, G., Alvarez-Guerra, M., Solla-Gullón, J., García-Cruz, L., Montiel, V., Irabien, A. **Catalyst Coated Membrane Electrodes for the gas phase CO₂ electroreduction to formate.** Catalysis Today. Accepted. 2018.

Diban N., Urtiaga A. **Electrochemical mineralization and detoxification of naphthenic acids on boron-doped diamond anodes.** Environmental Science and Pollution Research. Article in press. 2018. <https://doi.org/10.1007/s11356-017-1124-6>.

Diban N., Urtiaga A. **Electrochemical mineralization and detoxification of naphthenic acids on boron-doped diamond anodes.** Environmental Science and Pollution Research. Article in press. 2018. <https://doi.org/10.1007/s11356-017-1124-6>.

Diban, N., Gómez-Ruiz, B., Lázaro-Díez, M., Ramos-Vivas, J., Ortiz, I., Urtiaga, A. **Factors affecting mass transport properties of Poly(ϵ -caprolactone) membranes for tissue engineering bioreactors.** Membranes 8 (51), 1-12. 2018.

Domínguez-Ramos, A., Álvarez-Guerra, M., Díaz-Sainz, G., Ibáñez, R., Irabien, A. **Learning-by-Doing: the Chem-E-Car Competition® in the University of Cantabria as case study.** Education for Chemical Engineers. Article in press, 2018. <https://doi.org/10.1016/j.ece.2018.11.004>.

Domínguez-Ramos, A., Irabien, A. The carbon footprint of power-to-synthetic natural gas by photovoltaic solar powered electrochemical reduction of CO₂. Sustainable Production and Consumption. <https://doi.org/10.1016/j.spc.2018.11.004>. 2018.

Domínguez, S., Laso, J., Margallo, M., Aldaco, R., Rivero, M.J., Irabien, A., Ortiz, I. **LCA of greywater management within a water circular economy restorative thinking framework.** Science of the Total Environment 621, 1047 – 1056, 2018.

Feijoo, G., Ibáñez, R., Herguido, J., Partal, P., Tobajas, M., Sempere, J., López-Pérez, M.F., Rivero, M.J. **Education of Chemical Engineering in Spain: A global picture.** Education for Chemical Engineers 24, 27-31, 2018.

PUBLICATIONS

Fernández-Barquín, A., Casado-Coterillo, C., Irabien A. **Separation of CO₂-N₂ gas mixtures: Membrane combination and temperature influence.** Separation and Purification Technology 188, 197-205. 2018.

Fernández-Barquín, A., Rea, R., Ventur, D., Giacinti, M., De Angelis, M.G., Casado-Coterillo, C., Irabien, A. **Effect of relative humidity on the gas transport properties of Zeolite A/PTMSP mixed matrix membranes.** RSC Advances 8, 3536-3546, 2018.

García-Herrero, I., Margallo, M., Onandía, R., Aldaco, R., Irabien, A. **Connecting wastes to resources for clean technologies in the chlor-alkali industry: a life cycle approach.** Clean Technologies and Environmental Policy 20, 229-242. 2018.

García-Herrero, I., Margallo, M., Laso, J., Batlle-Baller, L., Bala, A., Fullana, P., Vazquez-Rowe, I., Durá, M.J., Sarabia, C., Abajas, R., Amo-Setien, F.J., Quiñones, A., Irabien, A., Aldaco, R. **Towards a sustainable agri-food system by an energetic and environmental efficiency assessment.** Chemical Engineering Transactions 70, pp. 811-816. 2018.

García-Herrero I, Oliveira-Leao S, Margallo M, Laso J, Bala A, Fullana P, Raugei M, Irabien A, Aldaco R. **Life cycle energy assessment of pneumatic waste collection static systems: A case study of energy balance for decision-making process.** Chemical Engineering Transactions 70, pp. 1699-1704. 2018.

García-Herrero, I., Margallo M, Laso, J., Bala, A., Fullana, P., Vazquez-Rowe, I., Gonzalez, M.J., Durá, M.J., Sarabia, C., Abajas, R., Quiñones, A., Irabien, A., Aldaco, R. **On the estimation of potential food Waste reduction to support sustainable production and consumption policies.** Food Policy, 80, 24-38. 2018.

Gómez-Coma, L., Ortiz-Martínez, V. M., Fallanza M., Pinedo J., Gomez, P. M., Gordejuela M., Morante, L., Sainz, M., Ortiz, A., Ibáñez, R., Ortiz, I. **GRADISAL: Aprovechamiento de la Energía Contenida en el Gradiente Salino.** Retema, Pp 26-32, 2018.

PUBLICATIONS

Gómez-Lavín, S., San Román, M. F., Ortiz, I., Fernández, J., de Miguel, P., Urtiaga, A. **Dioxins and furans legacy of lindane manufacture in Sabiñánigo (Spain). The Bailín landfill site case study.** Science of the Total Environment 624, 955-962, 2018.

Gómez-Pastora, J., González-Fernández, C., Real, E., Iles, A., Bringas, E., Furlani, E. P., Ortiz, I. **Computational modeling and fluorescence microscopy characterization of a two-phase magnetophoretic microsystem for continuous-flow blood detoxification.** Lab on a Chip 18, 1593-1606, 2018.

Gómez-Pastora, J., González-Fernández, C., Fallanza, M., Bringas, E., Ortiz, I. **Flow patterns and mass transfer performance of miscible liquid-liquid flows in various microchannels: Numerical and experimental studies.** Chemical Engineering Journal 344, 487-497, 2018.

Gómez-Pastora, J., González, C., Fernández, C., Karampelas, I.H., Bringas, E., Furlani, E. P., Ortiz, I. **Design of Magnetic Blood Cleansing Microdevices through experimentally validated CFD modeling.** TechConnect Briefs, Biotech, Biomaterials and Biomedical 3, 170-173, 2018.

Gómez-Pastora, J., Karampelas, I.H., Alorabi, A.Q., Tarn, M. D., Bringas, E., Iles, A., Paunov, V.N., Pamme, N., Furlani, E.P., Ortiz, I. **CFD analysis and experimental validation of magnetic droplet generation and deflection across multilaminar flow streams.** TechConnect Briefs 2018 – Advanced Materials 3, 182-185, 2018.

Gómez-Ruiz, B., Ribao, P., Diban, N., Rivero, M.J., Ortiz, I., Urtiaga, A. **Photocatalytic degradation and mineralization of Perfluorooctanoic acid (PFOA) using a composite TiO₂-rGO catalyst.** Journal of Hazardous Materials 344, 950-957, 2018.

PUBLICATIONS

Gómez-Ruiz, B., Diban, N., Urtiaga, A. **Comparison of microcrystalline and ultrananocrystalline boron doped diamond anodes: Influence on perfluorooctanoic acid electrolysis.** Separation and Purification Technology 208, 169-177, 2019.

Hernández-Pellón, A., Fernández-Olmo, I. **Using multi-site data to apportion PM-bound metal(loid)s: Impact of a manganese alloy plant in an urban area.** Science of the Total Environment 651, 1476-1488. 2019.

Hernández-Pellón, A., Nischkauer, W., Limbeck, A., Fernández-Olmo, I. **Metal(loid) bioaccessibility and inhalation risk assessment: A comparison between an urban and an industrial area.** Environmental Research 165, 140-149, 2018.

Herrero-Gonzalez, M., Diaz-Guridi, P., Dominguez-Ramos, A., Ibañez, R., Irabien, A. **Photovoltaic solar electro dialysis with bipolar membranes.** Desalination 433, 155-163, 2018.

Herrero-Gonzalez, M., Wolfson, A., Dominguez-Ramos, A., Ibañez, R., Irabien, A. **Monetizing Environmental Footprints: Index Development and Application to a Solar-Powered Chemicals Self-Supplied Desalination Plant.** ACS Sustainable Chemistry & Engineering 6(11), 14533-14541, 2018.

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Laso, J., García-Herrero, I., Margallo, M., Vázquez-Rowe, I., Fullana, P., Bala, A., Gazulla, C., Irabien, A., Aldaco, R. **Finding an economic and environmental balance in value chains based on circular economy thinking: an eco-efficiency methodology applied to the fish canning industry.** Resource, Conservation & Recycling 133, 428-437. 2018.

PUBLICATIONS

Laso, J., Vázquez-Rowe, I., Margallo, M., Crujeiras, R.M., Irabien, A., Aldaco, R. **Life cycle Assessment of European anchovy (*Engraulis encrasicolus*) landed by purse seine vessels in northern Spain.** International Journal of Life Cycle Assessment 23, 1107-1125. 2018.

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CONGRESSES



Santander
Departamento de Ingenierías
Química y Biomolecular
ETSIIyT
Universidad de Cantabria
21 al 23 de enero de 2018

The Chemical & Biomolecular Engineering Department of the University of Cantabria organized and hosted the IV teaching Innovation Congress in Chemical Engineering. The event took place in Santander from January 21st to 23rd, 2018.

The opening conference was taught by Prof. Jarka Glassey. She spoke about “Chemical Engineering Education – Do we teach the right skills for a global economy of the future effectively?”, in the conference room of the ETSIIyT of the University of Cantabria, on Monday January 22nd, 2018

Prof. Arturo Romero was in charge of the closing plenary lecture, that was held in the conference room of the ETSIIT of the University of Cantabria, on Tuesday, January 23rd, 2018. Prof. Arturo Romero talk was entitled “El Reto de Aprender Ingeniería Química en España”.



CONGRESSES

ANQUE – ICCE – CIBIQ 2019



Santander, SPAIN
June 19-21, 2019



ANQUE-ICCE 3
3rd International
Congress of
Chemical
Engineering

"Building bridges in Chemical Engineering"



Santander, ESPAÑA
Junio 19-21, 2019



Santander, SPAIN
June 17-18, 2019

CIBIQ
1^{er} Congreso
Iberoamericano de
Ingeniería Química
ANQUE-ICCE 3
Student
Conference

The Chemical & Biomolecular Engineering Department of the University of Cantabria is organizing the ANQUE-ICCE 3 - 3rd International Congress of Chemical Engineering, CIBI1 - 1^{er} Congreso Iberoamericano de Ingeniería, Congreso de Estudiantes ANQUE-ICCE-3. The event will take place in Santander from June 19th to 21st, 2019.

All the information is available on: <https://www.anque-icce2019.com/>

CONGRESSES

The main progress achieved during our research activity is internationally disseminated through scientific congresses. During 2018, our work was presented at the following congresses:

IV Congreso de Innovación Docente en Ingeniería Química – IV CIDIQ. Santander (Spain). January 21-23, 2018.

5th European Conference on Microfluidics – μ Flu18. Strasbourg (France). February 28 – March 2, 2018.

EHEC - European Hydrogen Energy Conference. Málaga (Spain). March 14-16, 2018.

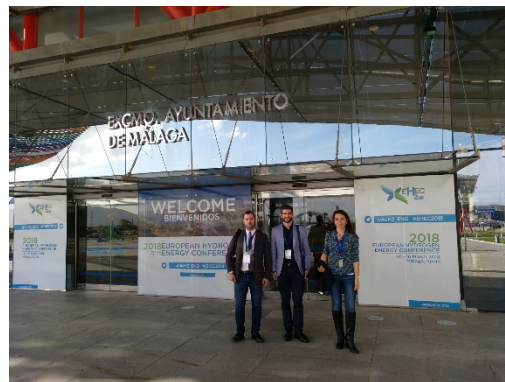
International Spring School and Water Reclamation and Reuse. Izmir (Turkey). April 19-20, 2018.

VI Doctorate Days and Scientific Dissemination of Group 9 of Universities (G-9). Santander (Spain). April 11-13, 2018.

Nanotech 2018 Conference & Expo. Anaheim (USA), May 13-16, 2018.

MELPRO 2018. Prague (Czech Republic). May 13-16, 2018.

SETAC Europe 28th Annual Meeting. Rome (Italy), May 13-17, 2018.



CONGRESSES

6th International Congress on Green Process Engineering. Toulouse (France). June 3-6, 2018.

10th European meeting on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA10). Almería (Spain).
June 4 – 8, 2018.

American Society for Nutrition Conference (Nutrition 2018). Boston (USA), June 9-12, 2018.

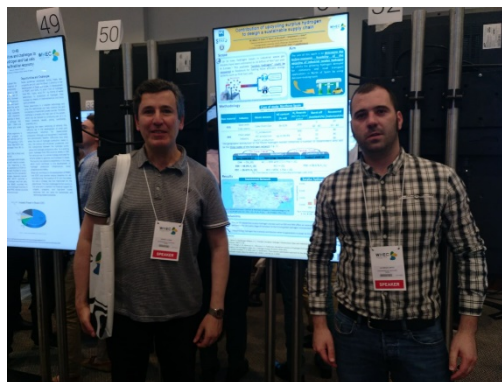
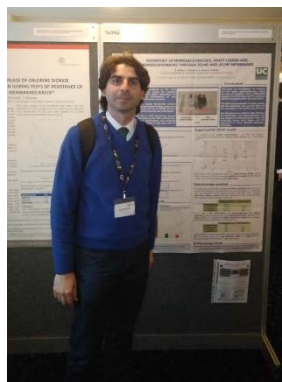
22nd World Hydrogen Energy Conference (WHEC 2018). Rio de Janeiro (Brazil). June 17 – 22, 2018.

9th International Chemistry Congress of ANQUE. Murcia (Spain). June 17-20, 2018.

XIII Congreso Español de Tratamiento de Aguas. León (Spain). June 18-20, 2018.

40th International Conference on Environmental & Food Monitoring. Santiago de Compostela (Spain). June 19-22, 2018.

International Conference on Resource Sustainability (icRS). Pekin (China), June 27-29, 2018.



CONGRESSES

7th International Conference on Engineering for Waste and Biomass Valorisation (WasteEng 2018). Prague (Czech Republic). July 2-5, 2018.

Carbon 2018. Madrid (Spain). July 2-6, 2018.

E3Mediterranean Symposium: Electrochemistry for Environment and Energy. Madrid (Spain). July 4, 2018.

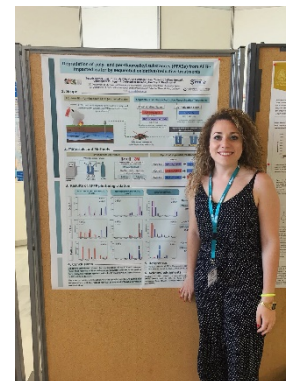
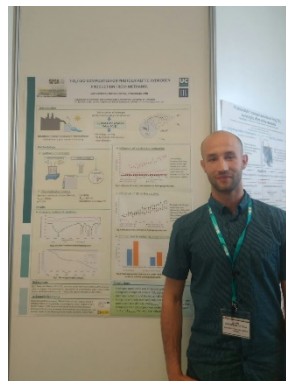
Jornadas Nacionales de Ingeniería Química. Salamanca (Spain). July 4-6, 2018.

16th NYM (Network Young Membranes) 2018 conference. Valencia (Spain). July 5-7, 2018.

4th International Symposium on the Catalysis for Clean Energy and Sustainable Chemistry. Bilbao (Spain). July 9-11, 2018.

Euromembrane 2018. Valencia (Spain). July 9-13, 2018.

21st Conference on Process Integration for Energy Saving and Pollution Reduction (PRES 2018). Prague (Czech Republic), August 25-29, 2018.



CONGRESSES

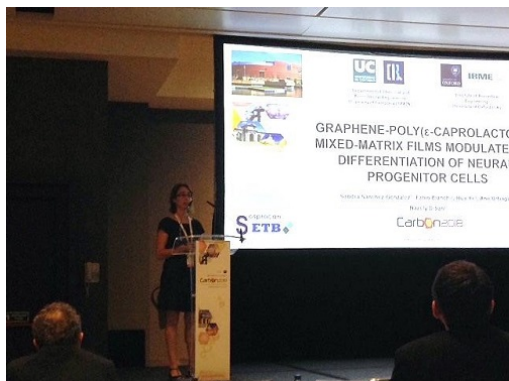
23rd International Congress of Chemical and Process Engineering (CHISA 2018). Prague (Czech Republic). August 25-29, 2018.

38th International Symposium on Halogenated Persistent Organic Pollutants - Dioxin 2018. Krakow (Poland). August 26-31, 2018.

V Reunión Nacional de Grupos de Fotocatálisis. 2018 Joint UK&Ireland/Spain Semiconductor Photochemistry Meeting. Las Palmas de Gran Canaria (Spain). September 10-11, 2018.

13th Conference on Sustainable Development of Energy, Water and Environments (SDEWES 2018). Palermo (Italy). September 30 – October 4, 2018.

International Sustainable Production and Consumption (ISPC 2018). Manchester (United Kingdom). October 4-5, 2018.



CONGRESSES

7th International Symposium on Energy from Biomass and Waste (VENICE 2018). Venice Italy). October 15-18, 2018.

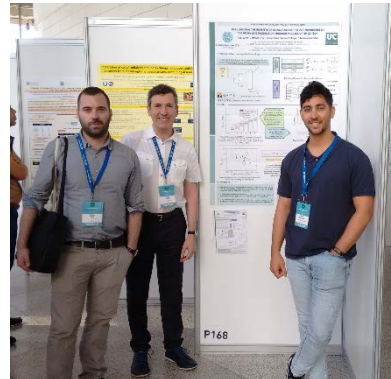
13th Conference on Sustainable Development of Energy, Water and Environments (SDEWES 2018). Palermo (Italy).
September 30 – October 4, 2018.

11th International Conference on Life Cycle Assessment of Food 2018 (LCA Food). Bangkok (Thailand). October 17-19, 2018.

XII Congreso Internacional AEDyR. Toledo (Spain). October 23-25, 2018.

1st Latin American and the Caribbean Young Water Professionals Conference. Santiago de Querétaro (Mexico). November 5-9, 2018.

Accelerating CCUS: A Global Conference to Progress CCC 2018. Edinburgh (Scotland). November 28-29, 2018.



CONGRESSES

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Fallanza, M., Margallo, M., Albo, J., Domínguez-Ramos, A., Bringas, E., Rivero, M.J., Ibáñez, R., Ortiz, I. Chemical Engineering European Project Semester: integrando competencias en la enseñanza de la Ingeniería Química, presented at **IV Congreso de Innovación Docente en Ingeniería Química – IV CIDIQ**. Santander (Spain). January 21-23, 2018.

Fernández-Olmo, I., Rivero, M.J., Álvarez-Guerra, A. Integración de la competencia de la comunicación oral y escrita en el curriculum del Máster Universitario en Ingeniería Química, presented at **IV Congreso de Innovación Docente en Ingeniería Química – IV CIDIQ**. Santander (Spain). January 21-23, 2018.

Fernández-Olmo, I., Gayubo, A. G., Urtiaga, A.M., Ibáñez, R. Fortalezas y retos de los Másteres Interuniversitarios: la experiencia del Máster en Ingeniería Química por las Universidades de Cantabria y del País Vasco, presented at **IV Congreso de Innovación Docente en Ingeniería Química – IV CIDIQ**. Santander (Spain). January 21-23, 2018.

García Costa, A.L., Álvarez-Guerra, A., Ibáñez, R., Rodríguez, J.J. Programa de estudiantes del 10º Congreso Mundial de Ingeniería Química: Una experiencia de éxito”, presented at **IV Congreso de Innovación Docente en Ingeniería Química – IV CIDIQ**. Santander (Spain). January 21-23, 2018.

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Zarga, G., Diban, N., Urtiaga, A. Desarrollo de competencias transversales mediante técnicas de aprendizaje activo en equipo en la asignatura "Dynamics and Control of Chemical Processes", presented at **IV Congreso de Innovación Docente en Ingeniería Química – IV CIDIQ**. Santander (Spain). January 21-23, 2018.

Basauri, A., Gómez-Pastora, J., Fallanza, M., Bringas, E., Ortiz, I. Mass transfer performance under different flow-pattern systems in microextractors, presented at **5th European Conference on Microfluidics – μ Flu18. Strasbourg** (France). February 28 – March 2, 2018.

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Ribao, P., Esteves, M.A., Fernandes, V.R., Rivero, M.J., Ortiz, I., Rangel, C.M. Photocatalytic hydrogen production using TiO₂-rGO-Pt nanocomposites and glycerol as sacrificial agent, presented at **EHEC - European Hydrogen Energy Conference**. Málaga (Spain). March 14-16, 2018.

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Corredor, J., Rivero, M.J., Ortiz, I. TiO₂/rGO composites for the photocatalytic hydrogen production from methanol, presented at **10th European meeting on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA10)**. Almería (Spain). June 4 – 8, 2018.

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Ferreriro, C., Condori, O., Lombraña, J.I., Villota, N., Rivero, M.J. Contribution of TiO₂/GAC catalytic ozonation to the sustainable treatment of aniline wastewaters from the vulcanization accelerator manufacturing, presented at **10th European meeting on Solar Chemistry and Photocatalysis: Environmental Applications (SPEA10)**. Almería (Spain). June 4 – 8, 2018.

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Amo, F.J., Abajas-Bustillo, R., Sarabia-Cobo, C., García-Herrero, I., Durá-Ros, M.J., Aldaco, R. Differences in Food Characterization in the Different Tables and Databases of Nutritional Composition, presented at **American Society for Nutrition Conference (Nutrition 2018)**. Boston (USA), June 9-12, 2018.

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Álvarez, J.A., Benavente, R., Urtiaga, A. Crosslinking of multilayer films by beta irradiation. Influence on the preproperties of wine packaging materials, presented at **9th International Chemistry Congress of ANQUE**. Murcia (Spain). June 17-20, 2018.

Batlle-Bayer I, Bala A, Aldaco R, Fullana-i-Palmer P. Assessing GHG emissions of Spanish diets, presented at **9th International Chemistry Congress of ANQUE**. Murcia (Spain). June 17-20, 2018.

Díaz-Guridi, P., Luguera, S., González, P., Otero, J.A., Ibáñez, R. Biotechnological production of lactic acid from cheese whey, presented at **9th International Chemistry Congress of ANQUE**. Murcia (Spain). June 17-20, 2018. (Best poster presentation award).

Díaz-Guridi, P., González, P., Luguera, S., Otero, J.A., Ibáñez, R. Concentration and partial demineralization of cheese whey by nanofiltration, presented at **9th International Chemistry Congress of ANQUE**. Murcia (Spain). June 17-20, 2018.

CONGRESSES

García-Herrero I, Hoehn D, Leivas R, Laso J, Margallo M, Aguazo M, González MJ, Dura MJ, Sarabia C, Abajas R, Quiñones A, Irabien A, Bala A, Fullana P, Vázquez-Rowe I, Aldaco R. Assessment of food waste management based on the Nexus Food-Energy-Water-Climate, presented at **9th International Chemistry Congress of ANQUE**. Murcia (Spain). June 17-20, 2018.

Gómez-Lavín, S., Elizalde, M. P., Urtiaga, A. Migration of perfluorinated compounds from food-contact paper into food simulant Tenax® and lyophilized milk, presented at **9th International Chemistry Congress of ANQUE**. Murcia (Spain). June 17-20, 2018.

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CONGRESSES

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CONGRESSES

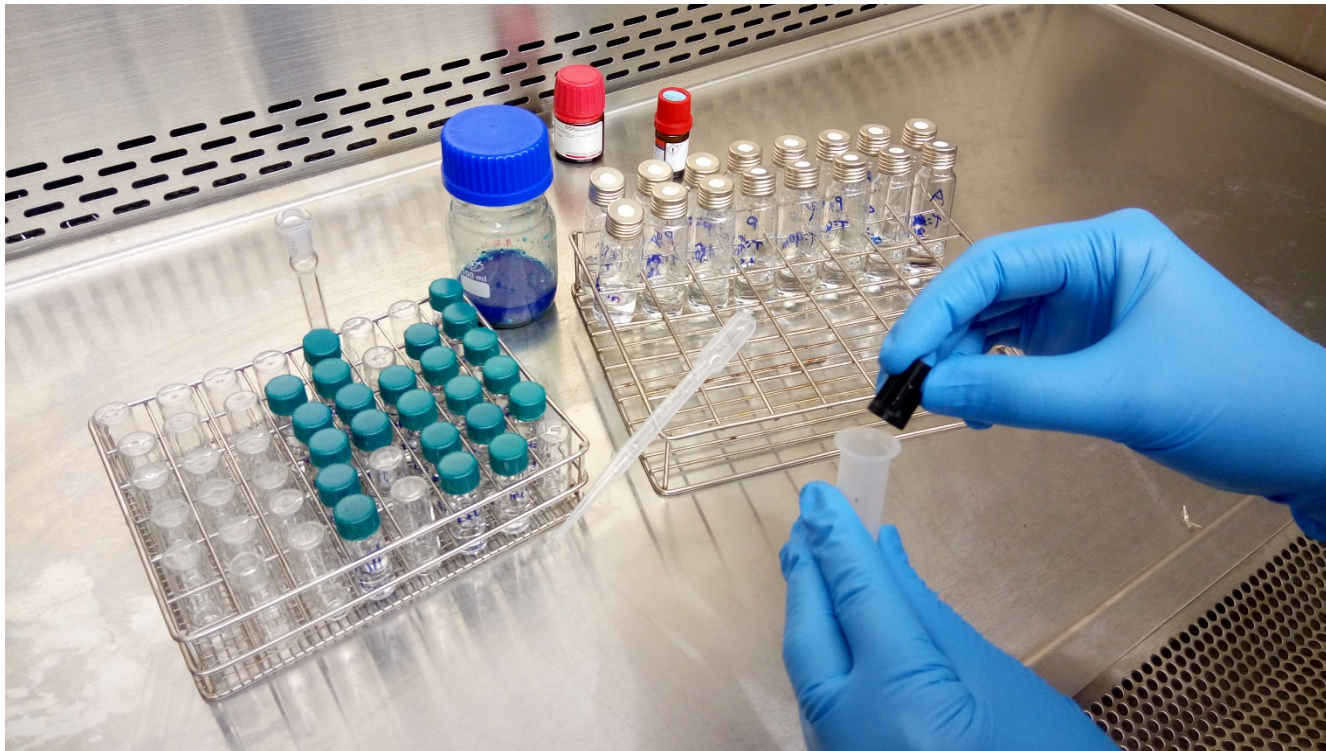
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ANALYTICAL SERVICES



ANALYTICAL SERVICES – SOSPROCAN UNIT

Servicios Analíticos – Unidad SOSPROCAN has a scientific and technological infrastructure and a set of last generation analytical techniques able to carry out a complete physico-chemical characterization of a wide range or samples. The available equipment allows comprehensive control of a high number of environmental parameters as well as monitoring compliance. The main aim of the Servicios Analíticos Unidad SOSPROCAN is to collaborate and make available the extensive analytical capabilities of the equipments to the productive sector and the Administration, offering a high quality service.

ANALYTICAL SERVICES – SOSPROCAN UNIT Team



Prof. Raquel Ibáñez
Head of the Analytical Services

Technical Staff



Oscar Primo



Beatriz Arce

Quality Staff



Elena Manteca



Sonia Gómez



Gema Pérez

ANALYTICAL SERVICES – SOSPROCAN UNIT

CURRENTLY, WE ARE WORKING ON:



**ENVIRONMENTAL PARAMETERS
AND WATER CHARACTERIZATION**



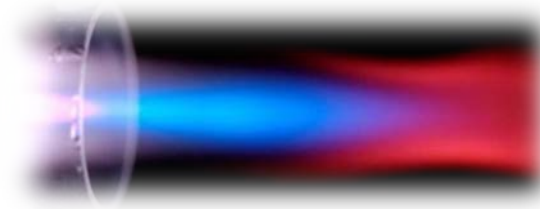
**SOLID
CHARACTERISATION**



**CHROMATOGRAPHIC
TECHNIQUES**



**PLASMA MASS
SPECTROMETRY**



ANALYTICAL SERVICES – SOSPROCAN UNIT

MAIN ACTIVITIES DURING 2018:

Incorporation of Sonia Gómez and Gema Pérez to the Quality Staff

FDA inspection in the frame of the pharmaceutical analyses developed by the SOSPROCAN Unit

Customer Audits

Development of public rates of the analytical services

2018/19 – Action plan: Obtaining the **Certification ISO 9001:2015 Standard** – Sistemas de Gestión de Calidad.

CUSTOMERS OF THE ANALYTICAL SERVICES:



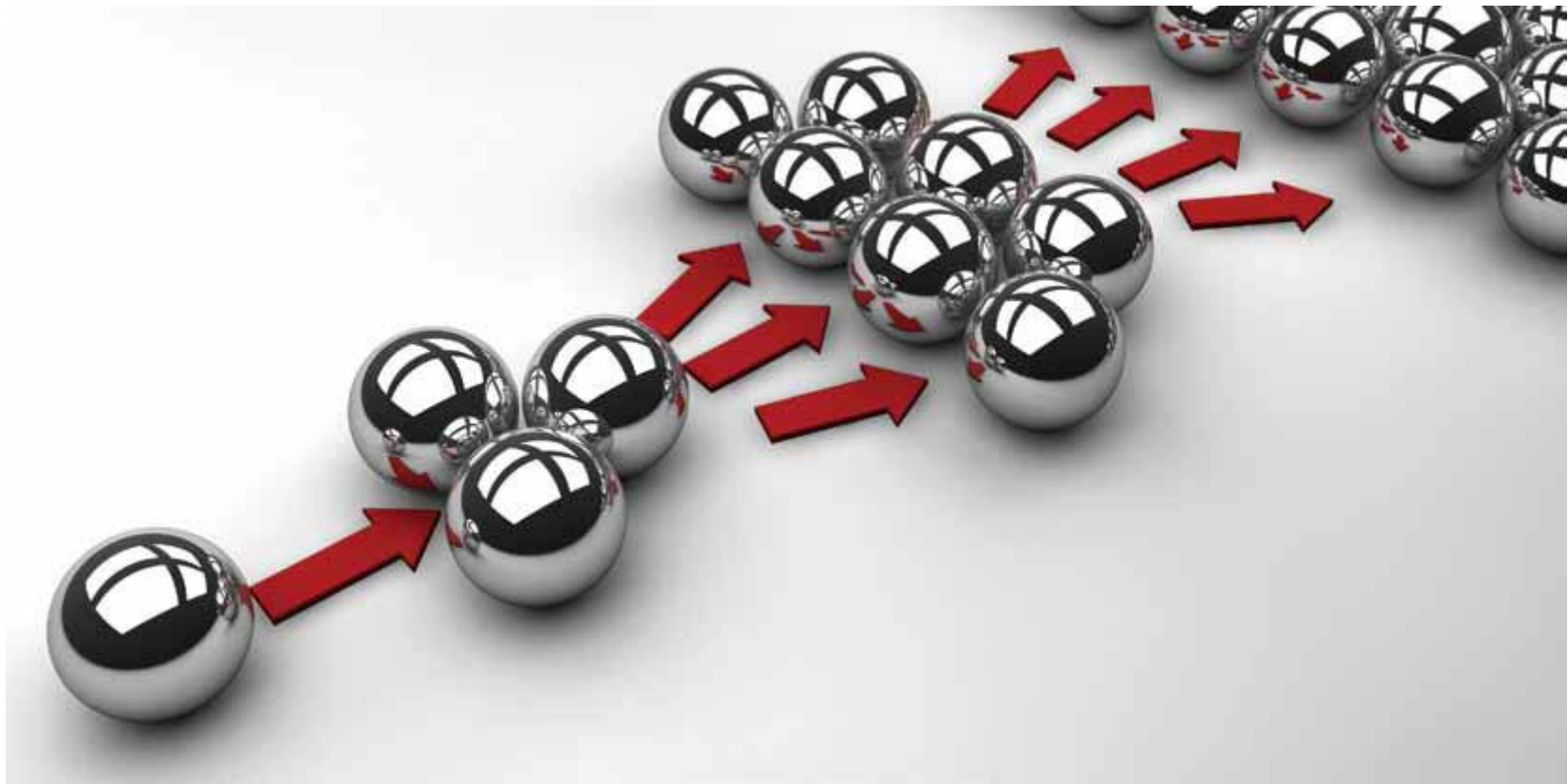
Cátedra de Física Médica
Departamento de
Ciencias Médicas
y Quirúrgicas



SERCAMAT



DISSEMINATION & SOCIAL EVENTS



“Encuentros con la Ingeniería Química”

January 30th, 2018

A group of students of the high school Marqués de Santillana, located in Torrelavega, visited our facilities. During the visit, they had the opportunity to know about different projects that are being developed in our department now and they approached and asked questions to the department researchers.



“International Day of Women and Girls in Science”

February 11th, 2018

Scientists-women of the Chemical and Biomolecular Engineering Department joined the events organized for the celebration of the International Day of Women and Girls in Science.

Nazely Diban, Lucía Gómez and Gema Pérez gave a presentation about the role of Chemical Engineering in the Society in the Special Education School Padre Apolinar, on February 8th, 2018. Beatriz Gómez and Paula Ribao, will speak about their own experiences as chemical engineers in the scientific world, in an event that will take place at the ETSIIyT of the University of Cantabria on February 9th, 2018.



Open Doors Days

March 22nd, 2018

The Chemical & Biomolecular Engineering Department received the visit of several groups of high school students interested in studying engineering degrees, as the degree in Chemical Engineering. During the visit to the Department of Chemical and Biomolecular Engineering, the researchers showed to the students their projects and the academic and research facilities.



April 20th, 2018

The University of Cantabria organized the day "Feria Informativa UC", which took place at Paraninfo of the University of Cantabria. The aim of the event is to show the academic offer of the University of Cantabria to future students. Eugenio Bringas, Marcos Fallanza and María Margallo, on behalf of the Chemical & Biomolecular Engineering Department, explained to the audience the academic career in the field of Chemical Engineering, from the degree to the doctorate program.

Dissemination Activities in the School

April 26th, 2018

Elena Manteca and Gema Perez participated in the Cultural Week of Atalaya School, located in Santander. They prepared a small presentation about the research activities developed in the Chemical and Biomolecular Engineering Department, and show the students how to develop simple experiments in order to bring science closer to the society. The students had the opportunity to discover the Science world and they could ask a lot of curiosities.



May 16th, 2018

Several members of the Chemical & Biomolecular Engineering Department of the University of Cantabria visited the Atalaya School, located in Santander. During the visit, Elena Manteca and Gema Pérez performed a practice about the removal of copper from wastewater by applying Ion Exchange Technology, and Guillermo Díaz and Jose Manuel Vadillo showed them the car prototype developed by the Chemical Engineering Students to participate in the Chem-e-car competition.

June 8th, 2018

Elena Manteca and Gema Pérez participated in the Science Day of the CEIP Sardinero. During the day, the students of 4th, 5th and 6th levels of Primary School participated in different workshops in the field of Chemistry, Maths and Geology. Elena and Gema were in charge of the Chemistry Workshop. They showed the students how they daily work at the lab is, and some experiments and analysis about water treatment and reuse were performed.



Pint of Science

May 15th, 2018

Sandra Sánchez, doctorate student in the Chemical, Energy and Process Engineering program, participated in the Pint of Science 2018 celebrated in Santander. She talked about “Graphene: the supermaterial...also in medicine?”, in bar Trendy.

May 16th, 2018

Prof. Raquel Ibáñez participated in the Pint of Science 2018, celebrated in Castro Urdiales. She talked about “The Technology will bring the Water of the Future” in the bar New Warhol.



PINT OF SCIENCE 2018
Santander
14, 15 y 16 de MAYO 20h
Entrada gratuita

pintofscience.es #Pint18ES
web.unican.es/pintofscience #Pint18STD
@pintofsciencees / @UCDivulga

Bar Trendy C/ San José 17, 39003, Santander

14 **DIAGNÓSTICO CIUDADANO**
Diagnosticame con luz
¿Acemos ciudadanos o aprendemos a serlo?

15 **ESTUDIANDO EL CEREBRO**
¿Se pueden deprimir los ratones y los peces?
Grafeno: supermaterial...¿También en medicina?

16 **UNIVERSO Y GENOMA**
Universo extremo, mentes creativas
La era genómica y el tratamiento de enfermedades

Logos: Universidad de Cantabria, FECYT, UC, trendy



PINT OF SCIENCE 2018
Castro Urdiales
14, 15 y 16 de MAYO 20h
Entrada gratuita

pintofscience.es #Pint18ES
web.unican.es/pintofscience #Pint18CST
@pintofsciencees / @UCDivulga

14 **EXPLORANDO DESDE RUINAS A OCEANOS**
Trastos Disco-Bar C/ Arturo Díaz 4
La arqueología, más allá de lo que Hollywood nos cuenta
La luz en la exploración submarina

15 **TECNOLOGÍA A PUNTO**
New Warhol Café Paseo de Ostende 36
Árrea en los bollos. La electrónica nos invade
La tecnología tiene el agua del futuro

16 **DE TAXIS A DIAMANTES**
Cafetería Paréntesis C/ Pío Ángel Cabo 5
Preguntas sobre taxis y espías
¿Por qué dicen que el petróleo se agota?

Logos: Universidad de Cantabria, FECYT, UC, Ayuntamiento de Castro Urdiales

European Researchers Night, September 28th, 2018

Stands at Porticada Square

Researchers of the Chemical & Biomolecular Engineering Department participated in the event “European Researchers’ Nigh” in the Porticada Square in Santander. The event was organized by the Scientific Culture and Innovation Unit of the UC, and 23 researchers of our department were collaborating with science shows and activities aimed at making chemical engineering science closer to the general public . The activity outreached the expectations and facilitate the general public to become aware of the relevance of R&D in daily life.



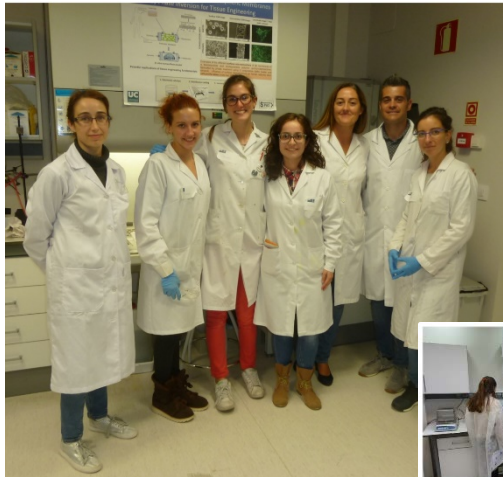
Theatre at CASYC

Clara Casado, Sandra Sánchez, Guillermo Díaz, Marta Romay and Aitor Marcos, researchers of the Department of Chemical and Biomolecular Engineering, participated in the Micro-theatre event that took place in the Casyc theatre. The title of the show was “Carbon Footprint”.

Project: Amentúrate

Researchers of the Chemical & Biomolecular Engineering Department organized three different workshops for a group of secondary school students enrolled in the programme "Amentúrate", organized by the University of Cantabria.

María José Rivero, Eugenio Bringas, Nazely Diban, Sandra Sánchez, Cristina González, Laura Rancaño and Alba organized the first workshop "Nanomateriales aplicados a la energía y el medio ambiente", that took place on October 25th, 2018



Lucía Gómez, Víctor Manuel Ortiz and Raquel Ibañez organized the second workshop "Blue Energy: how to obtain sustainable energy from the sea", that took place on November 6th, 2018



Clara Casado, Guillermo Díaz, Aitor Marcos, Sergio Castro, Azucena Abejón and José Manuel Vadillo organized the third workshop "¿Qué puede hacer un Ingeniero Químico contra el cambio climático?", that took place on November 15th, 2018

Science Week, November 5th – 16th, 2018

Researchers of the Chemical & Biomolecular Engineering Department welcomed secondary students from the School San José (Santander), IES José del Campo (Ampuero) and the School Calasanz (Santander), during the celebration of the Science Week. The students had the opportunity to become Chemical Engineers for one day, and they developed several experiments in the laboratories. The program of activities performed by the students included the measurement of ammonia content in wastewaters, building membranes, preparation of the chemical reactions that moves a car, observation of nanoparticles in a microscope and discussion with the researchers about their findings.



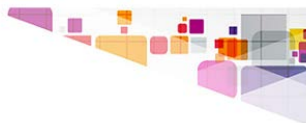
Project “La Universidad en tu Barrio”, December 3rd, 2018

Lucía Gómez, Guillermo Díaz and Gema Pérez, on behalf of the Chemical & Biomolecular Engineering Department participated in the project “La Universidad en tu Barrio”, organized by the University of Cantabria and the Primary School Gerardo Diego of Santander.

the researchers of the Chemical & Biomolecular Engineering Department, within Sandra Ceballos, Ana Fernández y Lidia García, students of the Chemical Engineering Degree, prepared a workshop about ionic change to remove copper from a wastewater. During the workshop, the primary students had the opportunity of working like a Chemical Engineering in a lab and asking questions to the researchers.



Project “Ciencia con Arte”



Ane Urtiaga and Andrea Arguillarena are involved in the project “Ciencia con Arte”, organized by the University of Cantabria. The aim is to bring the research of the UC closer to young school children in the region and promote scientific vocations. In this project, the students of secondary and high schools have to make a video counting the research project as detailed as possible that has been previously assigned.

“Media”

March 2018

The research activities of the Chemical & Biomolecular Engineering Department were highlighted in the local newspaper's supplement. Inmaculada Ortiz was interviewed based on the Jose María Parés Award. Ane Urtiaga and Sonia Gómez reported the capacities of our department to perform different analytical services in the agro-food sector. And Cristina González is one of the beneficiaries of the “Concepción Arenal Program” pre-doctoral training grants.



MARTES 10 DE JULIO DE 2018

Cantabria en la Onda 10/07/2018

Con Javier Barbero hablamos sobre los pacientes cántabros de hipertensión afectados por la retirada de lotes de medicamentos que contienen Valtarsán. Se calcula que afecta a 3.000 personas. Iñaki Fdez Olmo nos habla de la calidad del aire que respiramos en Cantabria. En la segunda parte nos atiende el presidente de Freixenet, José Luis Bonet, hoy presente en Santander para hablar de actualidad económica y política. Mariana Lima nos habla de habilidades sociales en verano. Julián Díaz ofrece desde el 112 consejos de precaución para estas semanas, mientras que Rubén Pérez nos cuenta la aventura que emprenderá nadando en el Lago Ness.

July 2018

Iñaki Fernández was protagonist on the Onda Cero radio program “Cantabria en la Onda” talking about air quality. You can listen to the complete interview here (from minute 22:12 to 28:50).

http://www.ondacero.es/emisoras/cantabria/audios-podcast/cantabria-en-la-onda/cantabria-en-la-onda-10072018_20180105b44a75d0cf25aed1ab181af.html



October 2018

Ane Urtiaga and Gema Pérez, on behalf of our Department, appeared on the local newspaper “El Diario Montañés”, as one of the most active groups that contribute to the science dissemination activities.



Welcome Summer

On June 27th, 2018 the Chemical & Biomolecular Engineering Department organized a track through Monte Buciero in Santoña, a social activity to welcome the summer season. After the track all participants had lunch together in Santoña and enjoy the afternoon sharing their experiences during the walk.



Christmas Party

On December 21st, 2018 the Chemical & Biomolecular Engineering Department will celebrate the Christmas party at the Casino de Santander restaurant.



DEPARTMENT OF CHEMICAL AND BIOMOLECULAR ENGINEERING



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