

Tamara Llano Astuy

CONTACT DETAILS

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Nationality: Spanish; **Date of birth:** 26th September 1986

ACADEMIC TRAINING

Ph.D. In Chemistry and Process Engineering (2016)

PhD with Cum Laude honours and International Mention. Extraordinary Prize of Doctorate by the University of Cantabria (UC). Supervisor: Alberto Coz Fernández. Doctoral Programme with Mention of Quality.

Master's degree in Chemical Engineering: Sustainable production and consumption (2010)

Master title: "Study and design of a Wood Delignification process at Pilot scale for Bioethanol production" University of Cantabria. Department of Chemical Engineering and Inorganic Chemistry, UC.

Bachelor's degree in Chemical Engineering (2009)

Bachelor Project Title: "Basic characterization of a dredged sediment from Suances by static and dynamic leaching tests". Department of Chemical Engineering and Inorganic Chemistry, UC.

SUPPLEMENTARY TRAINING

- University specialisation course "Technical aspects of sustainable environmental assessment at the industry". University of Cantabria. 40 h. Santander, 2010.
- National Seminar of Biofuels "Present and Future". 10 h. Santander, 2010.
- Seminar of Chromatography GCMS/LCMS. Izasa Werfen Group. 6 h. Barcelona, 2011.
- Training course "Introduction of data bases with Access". 9 h. Santander, 2012.
- Expert online courses in **quality management** (300 h); in **environmental management** (270 h); in **environmental impact evaluation** (50 h); in **labour risk prevention** (350 h). ACN Consulting. 2013.
- Fourier Transform Infrared Spectroscopy Course. Izasa Werfen Group. 20 h, 2014.
- Course of Safety and security in gas handling. Praxair Group. 5 h, 2014.
- University Summer course "Biorefinery and Industrial Applications". University of Cantabria. 23 h, 2014.
- Advanced Leaching Course in geomodelling "Leaching Assessment and LeachXS Training". 10 h, 2015.
- Teaching and Research courses from 2016 up to 2019. **10 courses, 121 h** (in total). Topics: Writing European Proposals; Funds of public-private R&D projects; Geographic Information System (GIS) tools; Oral Skills in the Classroom and Conference Presentations; Creative strategies for teachers and researchers; Mobile Learning tools for teachers; tools and indicators in research; Preparation of audio-visual material for teachers; Open courses and online teaching and social networks for teaching innovation; Multimedia edition for teaching.

EXPERIENCE

Assistant Professor of the University of Cantabria (2016-2020)

Teaching activities. **Chemical Engineering Degree:** Physical-Chemistry (mandatory subject of 2nd course); Environmental Assessment Techniques (optative subject of 4th course); **Industrial Engineering Research Master:** Industrial eco-innovation: waste and resources efficiency (subject of the module sustainable design of industrial systems); Introduction to research activity (subject of transversal module); **Senior programme:** subjects "Ecology and Environment"; "Chemistry in our life"; and "Chemistry for Criminal Investigation" subjects; **Cross-cutting Course at Doctoral School:** Responsible of the Intensive course "European and International Projects for Natural Scientists and Engineers"; **University Summer Course:** Responsible of the Summer Course "Marine Waste, Are a high-added value Resource?" Supervision of bachelor and master students. **Chemical Engineering Degree:** 2 works in 2018, 1 work in 2019; **Industrial Engineering Degree:** 1 work in 2018; **Master thesis:** 1 work in 2017. Research activities: details in List of Publications document and subsequent sections of the CV.

Project Manager of EU and International R&D projects (2015-2016)

European and International R&D Projects Office. University of Cantabria.

Experience in: EU and International Bilateral/Multilateral calls with academic and private sectors. Eligibility criteria for individual and collaborative projects and funding rules for different legal entities. Experience in economic deliverables development and assessment of H2020 projects. Deep knowledge of Interreg Atlantic Area, Interreg SUDOE, H2020 and LIFE funding programmes.

Quality Technician at the canning industry CRESPO S.L. (2015)

Experience in: application of BRC Global Standard for Food Safety v6. Chemical and microbiology assays, product, packaging, feedstocks and personnel inspections. Experience in filling BRC control documents.

Predoctoral Researcher (2010-2014)

Predoctoral researcher of the Green Engineering Research group (www.geruc.es). Department of Chemistry and Process & Resources Engineering of the UC / Working and developing its research at the SNIACE SA company. Research experience: Pilot plant co-design and set up. Cellulose extraction experiments at laboratory and pilot-scale. Lignocellulosic biomass characterisation, fractionation hydrolysis and detoxification. Simulation, modelling and optimisation of biorefinery schemes, set up of chromatographic methods; dissemination activities.

Teaching experience: **Technical Industrial Engineering** (old 3-year Spanish syllabus) co-supervision of 4 works from 2010 till 2013; **Chemical Engineering** (old 5-year Spanish syllabus): 1 work co-supervised in 2013

RESEARCH PROJECTS

CIRCULVA Project (2020)

The R&D project “Biorrefinería de biomasa de algas obtenidas en sistemas de biorremediación de efluentes de piscifactorías como fuente de nuevos ingredientes para nutrición animal” is a collaboration project between the UC and the biotech company INVESTALGA AHTI SL. Project role: Principal Investigator

POLIELTRALGA Project (2018-2019)

The R&D project “Feasibility of Sulphated Polysaccharide extraction and characterization of marine macroalgae: POLIELTRALGA” is a collaboration project between the UC and the biotech company INVESTALGA AHTI SL. Project role: Principal Investigator

HIDPROTEC Project (2017-2018)

The R&D project “Analysis and enzymatic hydrolysis of fish bones for human food: HIDPROTEC” co-funded by SODERCAN/FEDER and the HADELCA SL company of the BARNA SA group and lead by the GER group of the UC. Project role: Principal Investigator

Collaboration agreement with SOLVAY SA (2017-2018)

The R&D project “Developing of alkali-activated materials using fly ash and alkali by-products of the SOLVAY process for its use in construction and civil engineering”. This project is a collaboration agreement between the GER group and the company SOLVAY QUÍMICA SL. Project role: collaborating researcher

Project with Cantabria Regional Government (2017-2020)

The R&D project “Data collection, treatment and dissemination of wastes generation and assessment and indicators system adaptation for the new strategic plan of Cantabria region”. This project is a collaboration agreement between the Regional Council for the Environment of Cantabria and the GER group of the UC. Project role: collaborating researcher

BRIGIT Project (2012-2016)

The European R&D collaborative project “New tailor-made biopolymers produced from lignocellulosic sugars waste for highly demanding fire-resistant applications BRIGIT” funded by the EC. Project role: contracted researcher

EUCAFUEL Project (2010-2011)

The National R&D project “Development of the initiative for the identification, monitoring, biotechnology and valorisation-conversion of energetic cultivation, EUCAFUEL” funded by the E-Plan of the Spanish government. EUCAFUEL consortium was formed by the INIA Research Center, Valladolid University, the Sniace S.A. company and the GER group of the UC. Project role: contracted researcher

RESEARCH STAYS

Agricultural University of Athens, AUA (2013)

3 months at Department of Food Science and Human Nutrition (Athens, Greece). Supervised by Apostolis Koutinas in the Laboratory of Food Process Engineering, Processing and Preservation of Agricultural Products.

BARNA S.A. (2018)

3 months at BARNA S.A. Company in Mundaka (Spain). Supervised by Iñaki Aramburu head of I+D+I in BARNA S.A.

University of Reykjavik (2019)

3 months at Department of Environmental Engineering (Reykjavik, Iceland). Supervised by Dr. David C. Finger in the School of Science and Engineering.

GRANTS AND AWARDS

- Awarded with a 3-months grant for mobility. 2nd call of Short-Term Scientific Missions (STSM) of the Cost Action CA17133 under the topic "Circular Solutions in Reykjavik". Reykjavik, Iceland, **2019**.
- Extraordinary prize of the PhD by the University of Cantabria. Santander, Spain, **2018**.
- 3-months grant for mobility of assistant professors of the University of Cantabria. Mundaka, Spain, **2018**.
- Finalist of travel award for a high contribution in Fermentation Journal, **2017**.
- Awarded under National Plan for the Promotion of Talent and its employability in R&D, **2015**.
- Best Paper Award. ISB-INMA-TEH International Symposium, Bucharest, Romania, **2015**.
- LLP/ERASMUS 3-months grant for making an internship in Athens, Greece, **2013**.

List of Publications

BOOK

Llano Astuy, T., (2016). *Developments in a Sulphite Pulping Process for the Valorisation of its Carbohydrate Resources within the Biorefinery Concept*, Santander, Spain: Tratamiento Gráfico del Documento (ISBN: 978-84-608-5396-1)

ARTICLES IN PEER- REVIEWED JOURNALS

Scientific papers in the following topics: cellulose bleaching; carbohydrates characterisation, hydrolysis and kinetics; wood sulphite digestion and delignification; second-generation biorefineries. **Summary of research quality** (Scopus data): H-factor 5; 24 co-authors; 66 citations by 48 documents.

1. [Llano, T., Arce, C., Finger, D.C. 2020. Optimization of biogas production through anaerobic digestion of municipality solid waste: a case study in the capital area of Reykjavik. Under revision](#)
2. [Arce, C., Llano, T., González S., Coz, A. 2020. Use of green solvents as pre-treatment of dissolving pulp to decrease CS₂ consumption from viscose production. Cellulose. 27, 10313-10325. DOI: 10.1007/s10570-020-03465-3](#)
3. [Arce, C., Llano, T., García, P., Coz, A. 2020. Technical and environmental improvement of the bleaching sequence of dissolving pulp for fibre production. Cellulose. 27\(7\), 4079-4090 DOI: 10.1007/s10570-020-03065-1](#)
4. [Llano, T., Arce, C., Ruiz, G., Chenna, N., Coz, A. 2018. Modelling and Optimization of the last two stages of an Environmentally-Compatible TCF Bleaching Sequence. BioResources. 13\(3\), 6642-6662. DOI: 10.15376/biores.13.3.6642-6662](#)
5. [Llano, T., Quijorna, N., Andrés, A., Coz, A. 2017. Sugar, acid and furfural quantification in a sulphite pulp mill: feedstock, product and hydrolysate analysis by HPLC/RID. Biotechnology Reports. 10\(3\), 75-83. DOI: 10.1016/j.btre.2017.06.006](#)
6. [Llano, T., Quijorna, N., Coz, A. 2017. Detoxification of a Lignocellulosic Waste from a Pulp Mill to Enhance its Fermentation Prospects. Energies. 10\(3\), 348-365. DOI: 10.3390/en10030348](#)
7. [Coz, A., Llano, T., Cifrian E., Viguri J., Maican E., Sixta H. 2016. Physico-Chemical Alternatives in Lignocellulosic Materials in Relation to the Kind Component for Fermenting Purposes. Materials. 9\(7\), 574-611. DOI: 10.3390/ma9070574](#)
8. [Llano, T., García-Quevedo, N., Quijorna, N., Viguri, J., Coz, A. 2015. Evolution of lignocellulosic macrocomponents in the wastewater streams of a sulphite pulp mill: A preliminary biorefining approach. Journal of Chemistry. DOI: 10.1155/2015/102534](#)
9. [Llano, T., Alexandri, M., Koutinas, A., Gardeli, CHR., Papapostolou, H., Coz, A., Quijorna, N., Andres, A., Komaitis, M. 2015. Liquid-liquid extraction of phenolic compounds from spent sulphite liquor. Waste and Biomass Valorisation. DOI: 10.1007/s12649-015-9425-9](#)
10. [Rueda, C., Fernández-Rodríguez, J., Ruiz G., Llano, T., Coz, A. 2015. Monosaccharide production in an acid sulphite process: Kinetic modeling. Carbohydrate Polymers. 116, 18-25. DOI: 10.1016/j.carbpol.2014.05.006](#)
11. [Llano, T., Rueda, C., Quijorna, N., Blanco, A., Coz, A. 2012. Study of the delignification of hardwood chips in a pulping process for sugar production. Journal of Biotechnology 162\(4\), 422-429. DOI: 10.1016/j.jbiotec.2012.06.030](#)

CONGRESS ABSTRACTS AND PARTICIPATION

Oral communications and posters in the fields of: **waste valorisation** (i.e. struvite recovery of human urine, green seaweeds, fish waste, lignocellulosic waste, solid urban waste, construction and demolition waste), **simulation, modelling and optimization** of pulp mills and biorefineries; biomass **characterization, pre-treatment, hydrolysis and detoxification** ; development of **techno-economic and environmental** indicators, **geochemical modelling** and **decision support tools** in waste management.

1. [Cellulose reactivity enhancement by TCF bleaching and DES treatment for viscose production](#). Arce, C., Llano, T., Coz, A. 1st International Conference on Cellulose Fibres. Cologne, Germany **2020** [poster](#)
2. [Time to the coffee break: can coffee waste materials be used in a circular economy?](#) Coz, A., Burgos, C.L., Bárcena, V., Arce, C., [Llano, T.](#), Caicedo, D., Maestre, G.P., La Torre, L.F., Colmenares, R.F. II Congreso Internacional BERSTIC Biorrefinerías y Energías Renovables Soportadas en TIC. Bucaramanga, Colombia **2020** [oral communication](#)
3. [Acid depolymerization of cell wall polysaccharides from ulvan-rich extracts of green seaweeds](#). [Llano, T.](#), Macías, C., Trancho, A., Robles, J., Arroyo, N.L., Coz, A. II Congreso Internacional BERSTIC Biorrefinerías y Energías Renovables Soportadas en TIC. Bucaramanga, Colombia **2020** [oral communication](#)
4. [Modelling and Multi-Criteria Analysis of Anaerobic Digestion Process to Get Upgraded Methane from Bio-Residues in the City of Reykjavik](#). Finger, D.C., Stepanovic, I., [Llano, T.](#) *TERRAenVISION*. Barcelona, Spain **2019** (DOI: 10.3390/proceedings2019030046) [oral communication](#)
5. [Depolymerization of sulfate polysaccharides obtained from green algae to study the extraction of the Ulvan bioproduct](#). Macías, C., Arce, C., Coz, A., Robles, J., Arroyo, NL, [Llano, T.](#) *World Congress of International Solid Waste Association ISWA 2019* Bilbao, Spain **2019** [poster](#)
6. [Deep Eutectic Solvent Treatment of Industrial Dissolving Pulp for Viscose Production](#). Arce, C., [Llano, T.](#), Coz, A. 1st International Meeting on Deep Eutectic Solvents. Lisbon, Portugal **2019** (ISBN: 978-989-20-9622-3) [poster](#)
7. [Case study of R&D&I in a pulp mill to be integrated as a forest biorefinery](#). Coz, A., [Llano, T.](#), Rueda, C., Arce, A., Ruiz, G. 1st International Congress on Biorefineries and Renewable Energies Supported on ICT. Medellín, Colombia **2018** [oral communication](#)
8. [Utilization of waste versus commercial Mg sources to struvite-based fertilizer production from source-separated human urine](#). Santos, J., [Llano, T.](#)*, Cifrian, E., Andrés, A. *WasteEng 7th International Conference on Engineering for Waste and Biomass Valorisation*. Prague, Czech Republic **2018** (ISBN: 979-10-91526-07-4) [oral communication](#)
9. [Optimisation of a dissolving pulp bleaching sequence towards its valorisation](#). Arce, C., [Llano, T.](#), Ruiz, G., Chenna, N., Coz, A. *WasteEng 7th International Conference on Engineering for Waste and Biomass Valorisation*. Prague, Czech Republic **2018** (ISBN: 979-10-91526-07-4) [oral communication](#)
10. [Molecular Weight Distribution of waste fish hydrolysates through HPLC-DAD](#). [Llano, T.](#), Portilla, A.I., Viguri, J., Ariztegi, L., Aramburu, I., Coz, A. *4th CIAB Iberoamerican Congress on Biorefineries* Jaen, Spain **2018** (ISBN 978-84-9159-144-3) [oral communication](#)
11. [Lignocellulosic waste pretreatment with deep eutectic solvents](#). Arce, C., Edmond, M., Mariana, F., [Llano, T.](#), Coz, A. *4-CIAB 4th Iberoamerican Congress on Biorrefinerías*. Jaén, España **2018** (ISBN 978-84-9159-144-3) [oral communication](#)
12. [Alternatives of waste valorization of a sulphite pulp mill in construction materials](#). Arce, C., [Llano, T.](#), Dacuba, J., Andrés, A., Coz, A. *WASCON 10th International Conference on the Environmental and Technical Implications of Construction with Alternative Materials*. Tampere, Finlandia **2018** [oral communication](#)
13. [Análisis del grado de Implantación en la aplicación de los criterios de admisión en vertederos para Residuos Peligrosos en la Unión Europea](#). Cifrian, E., Dacuba, J., [Llano, T.](#), María B., Andrés, A. *REDISA VII Simposio Iberoamericano en Ingeniería de Residuos*. Santander, Spain **2017** (ISBN: 978-84-697-3824-5) [poster](#)
14. [Transformación de una fábrica de pasta celulósica en una biorrefinería: caracterización, fraccionamiento y vías de valorización del licor gastado](#). [Llano, T.](#), Rueda, C., Coz, A. *REDISA VII Simposio Iberoamericano en Ingeniería de Residuos*. Santander, Spain **2017** (ISBN: 978-84-697-3824-5) [oral communication](#)
15. [Revisión de metodologías para la determinación del comportamiento en la lixiviación de residuos solidificados/estabilizados](#). [Llano, T.](#), Dacuba, J., Cifrian, E., Santos J., Andrés, A. *REDISA VII Simposio Iberoamericano en Ingeniería de Residuos*. Santander, Spain **2017** (ISBN: 978-84-697-3824-5) [poster](#)
16. [Review of potential ways for resource recovery from human urine](#). Santos J., Cifrian, E., [Llano, T.](#), Rico, C., Alegría, C., Andrés, A. *4th WASTES: Solutions, Treatments and Opportunities*. Porto, Portugal **2017** (ISBN 978-1-138-19669-8) [poster](#)

17. [Technical, economic and environmental analysis for C&DW recycling plants](#). Cifrian, E., Galán, B., Viguri, J.R., [Llano, T.](#), Dosal, E., Andrés, A. *10th WCCE World Congress of Chemical Engineering*. Barcelona, Spain **2017** (ISBN: 978-84-697-8629-1) [poster](#)
18. [Applying active learning methods in a chemical process design course](#). Cifrian, E., [Llano, T.](#), Andrés, A., Galán, B., Viguri, J.R. *10th WCCE World Congress of Chemical Engineering*. Barcelona, Spain **2017** (ISBN: 978-84-697-8629-1) [oral communication](#)
19. [Analysis and modelling of As, Cd, Cr, Cu, Ni, Pb, and Zn release during a possible CO₂ leaking from Sub-seabed storage in estuarine polluted sediments under different oxidation levels](#). Martín-Torre, M.C., Cifrian, E., [Llano, T.](#), Ruiz, G., Viguri, J.R. *10th WCCE World Congress of Chemical Eng.* Barcelona, Spain **2017** (ISBN: 978-84-697-8629-1) [poster](#)
20. [Methodology for multi-objective optimization of biofilm activated sludge process](#). Revilla, M., [Llano, T.](#), Galán, B., Cifrian, E., Viguri, J.R. *10th WCCE World Congress of Chemical Engineering*. Barcelona, Spain **2017** (ISBN: 978-84-697-8629-1) [poster](#)
21. [Hydrolysis and separation of lignocellulosic biomass in a sulphite process to valorize the main fractions within the biorefinery concept](#). Coz A., [Llano T.](#), Rueda C., Quijorna N., Maican E. *ISB-INMA-TEH International Symposium of environmental engineering, renewable energy resources, sustainable agricultural engineering*. Bucharest, Romania, **2015** (ISBN: 2344-4118) [oral communication](#)
22. [Fractionation of a lignocellulosic residue towards its valorisation into biopolymers and construction additives](#). [Llano T.](#), Ulloa A., Quijorna N., Coz A. *WASCON 9th International Conference on the Environmental and Technical Implications of Construction with Alternative Materials*. Santander, Spain, **2015** (ISBN of extended abstracts: 978-84-606-8423-7/ ISBN of abstracts: 978-84-606-8422-0) [oral communication](#)
23. [Detoxification of spent sulphite liquor for succinic acid production](#). Alexandri, M., Papapostolou, H., Gardeli, C., [Llano, T.](#), Komaitis, M., Papanikolaou, S., Coz, A., Koutinas, A. *10th European Symposium on Biochemical Engineering Sciences and 6th International Forum on Industrial Bioprocesses*. Lille, France, **2014** [poster](#)
24. [Solvent extraction and analysis of phenolic compounds derived from spent sulphite liquor for enhanced succinic acid fermentation](#). Alexandri M., [Llano T.](#), Gardeli, C., Papapostolou H., Komaitis M., Papanikolaou S., Coz A., Koutinas A. *36th Symposium on Biotechnology for Fuels and Chemicals*. Florida, EEUU, **2014** [poster](#)
25. [Solvent extraction of phenolics from lignocellulosic waste](#). [Llano T.](#), Alexandri M., Koutinas A., Gardeli CHR., Papapostolou H., Komaitis M., Andres A., Coz A. *WasteEng 5th International Conference on Engineering for Waste and Biomass Valorisation*. Rio de Janeiro, Brazil, **2014** (ISBN: 979-10-91526-03-6) [oral communication](#)
26. [Analysis of sugars, intermediates and inhibitors in sulphite pulping by HPLC/RID](#). [Llano T.](#), Quijorna N., Portilla A.I., Andrés A., Coz A. *XXII TECNICELPA- International Forest, Pulp and Paper Conference*. Tomar, Portugal, **2013** (ISBN: 978-989-98602-0-9) [oral communication](#)
27. [Analysis of E.globulus wood, Spent liquor, Acid Sulphite Crude and Bleached Pulp hydrolysates from dissolving processing](#). [Llano T.](#), García-Quevedo N., Quijorna N., Portilla A.I., Viguri J., Coz A. *EPNOE 3rd International Polysaccharide Conference: Polysaccharides and Polysaccharide-derived products, from basic science to applications*. Nice, France, **2013** [oral communication](#)
28. [Production of sugar substrate and lignosulphonates in a pulping process for bioproducts: Study of the main operation digestion variables](#). Quijorna N., [Llano T.](#), Fernández-Rodríguez J., Rueda C., Blanco A., Coz A. *EPNOE 3rd International Polysaccharide Conference: Polysaccharides and Polysaccharide-derived products, from basic science to applications*. Nice, France, **2013** [poster](#)
29. [Valorisation of lignocellulosic waste from a sulphite pulp mill in bioproducts](#). Coz A., Quijorna N., Rueda C., [Llano T.](#), Portilla A.I., Blanco A., Andrés A., Galán B., Ruiz G., Viguri, J. *3rd International Forest Biorefinery Symposium*, Paper Week. Montreal, Canada, **2013** [poster](#)
30. [Influence of the digestion variables on a pulping process to maximise all the lingocellulosic waste options](#). [Llano T.](#), Rueda C., Quijorna N., Galán B., Blanco A., Coz A. *4th International Conference on Engineering for Waste and Biomass Valorisation*. Porto, Portugal, **2012** (ISBN: 979-10-91526-00-5) [oral communication](#)
31. [Characterisation of species of eucalypts and comparison of its behaviour as a lignocellulosic biomass in a pulp process](#). Rueda C., [Llano T.](#), Tejedor C., Quijorna N., Andrés A., Coz A. *4th International Conference on Engineering for Waste and Biomass Valorisation*. Porto, Portugal, **2012** (ISBN: 979-10-91526-00-5) [poster](#)
32. [Study of acid hydrolysis conditions of a lignocellulosic industrial waste on the sugar content for bioethanol production](#). Rueda C., [Llano T.](#), Quijorna N., Ruiz G., Coz A. *12th Mediterranean Congress of Chemical Engineering*. Barcelona, Spain, **2011** (ISBN: 978-84-615-4777-7) [poster](#)
33. [Analysis of the sugars and inhibitors obtained by the digestion of hardwood chips for bioethanol production](#). [Llano T.](#), Quijorna N., Rueda C., Mendivil R., Galán B., Coz A. *8th European Congress of Chemical Engineering*. Berlin, Germany, **2011** [oral communication](#)

34. [Comparison of sugar content of two pulping processes in order to produce bioethanol of second generation.](#) Quijorna N., [Llano T.](#), Portilla A.I., Rueda C., Blanco A., Andrés A., Coz A. *1st International Conferences WASTES: Solutions, Treatments, Opportunities.* Guimarães, Portugal, **2011** (ISBN: 978-989-97429-1-8) [poster](#)
35. [Physico-chemical characterisation of a spent sulphite liquor oriented to its valorisation options.](#) Rueda C., López-Álvarez J., [Llano T.](#), Quijorna N., Blanco A., Viguri J., Coz A. *ISWFPC 16th International Symposium on Wood, Fibre and Pulping Chemistry.* Tianjin, China, **2011** (ISBN: 9787501982066) [oral communication](#)
36. [Design of a laboratory for the study of the digestion of hardwood chips to obtain pulp and sugars for bioethanol production.](#) [Llano T.](#), Rueda C., Blanco A., Andrés A., Coz A. *3th International Symposium on Energy from Biomass and Waste.* Venice, Italy, **2010** (ISBN: 978-88-6265-008-3) [oral communication](#)

COST ACTION CONTRIBUTIONS

Member Substitute of CA17133 “Implementing nature-based solutions for creating a resourceful circular city”. Involved in WG3 Resource Recovery.

Active participation as ESR (2013-2015) and ECI (2016) in training schools, workshops and WG meetings in COST Actions FP1306 and FP1205

1. [Nutrients recovery from human urine using seawater and fishbones as a resourceful circular city model.](#) [Llano, T.](#), Sánchez-Lázaro, M., Santos, J., Andrés, A. Joint WG meeting. CA17133 COST Action. Vienna, 13-15 February **2019** [poster](#)
2. [Sugar substrate production from Pulp Mill Waste.](#) Coz, A., [Llano, T.](#), Rueda, C., Ruiz, G., Arce, C., Sixta, H. Third Workshop FP 1306 COST Action. Torremolinos, 27-28 March **2017** [oral communication](#)
3. [Dissolving pulp quality during alkaline extraction and peroxide bleaching steps.](#) [Llano, T.](#), Arce, C., Coz, A. COST Action FP 1205 Training school. Postdam, 17-19 January **2017** [poster](#)
4. [European funding opportunities in cellulose and nanocellulose production.](#) [Llano T.](#), San Miguel J., Tirnauca I.C., Coz, A. 2nd Workshop FP1205 COST Action. Borås, 13-14 April **2016** [oral communication](#)
5. [Hydrolysis and valorisation of *Sambucus nigra* into artisan products.](#) Coz A, Rodríguez-Díaz I, Portilla A.I., Ulloa L., [Llano T.](#), Thomas C., Fernandez J. 2nd Workshop FP1306 COST Action. Dubrovnik, 4-6 April **2016** [oral communication](#)
6. [Multi-Criteria Decision Making tools for assessing spent liquor detoxification alternatives.](#) [Llano T.](#), Dosal, E., Coz A. European Cooperation in Science and Technology. COST Action FP1306. Litvinov, Czech Republic **2015** [oral communication](#)
7. [Simulation and Optimization of sulfite process to obtain dissolving pulp and valuable products from spent sulfite liquor.](#) Quijorna N., Rueda C., [Llano T.](#), Andrés A., Galán B., Ruiz G., Viguri J., Coz A. COST Action FP1205. Meeting, Bangor, UK **2014** [poster](#)
8. [Study of sulphite process to obtain dissolving pulp and other valorisation options from spent liquor.](#) A. Coz, Quijorna N., [Llano T.](#), Portilla A.I., Rueda C., Andrés A., Galán B., Ruiz G., Viguri J. Cost Action FP1205. Gothenburg, Sweden **2013** [oral communication](#)

SCIENTIFIC AND TECHNICAL REPORTS OF THE R&D PROJECTS

1. Main author of **1 report** of the CIRCULVA Project.
2. Main author of **3 follow-up reports and 1 final report** of the POLIEXTRALGA Project.
3. Main author of **4 follow-up reports and 1 final report** of the HIDPROTEC Project.
4. Co-author of **6 deliverables and 5 milestones** of the BRIGIT EU Project.
5. Co-author of **3 reports of the EUCAFUEL** National Project.