

## CURRICULUM VITAE

Name: Cristina Rueda Ruiz  
E-mail: cristina.rueda@unican.es

### EDUCATION

#### **Ph. D. Chemical Engineering & Processes (2011/2016)**

University of Cantabria. Department of Chemistry and Processes & Resources Engineering (QUIPRE).  
Thesis: "*Integrated Forest Biorefinery from acid sulfite pulping. Simulation and valorization opportunities*"  
Supervisors: PhD Alberto Coz, PhD Gema Ruiz, PhD Jean Paris.

**Master on Integrated Management of Quality, Environment & Prevention of Occupational Risks (2016)**  
CEREM/University Rey Juan Carlos

#### **Technical Industrial Engineer on Industrial Chemistry (2012)**

University of Cantabria. Chemical Engineering Department  
Final Degree Thesis: Comparación de especies de eucalipto en procesos de pasteado y opciones de valorización  
"*Comparison of eucaliptus in pulping processes and valorization options*"

#### **Master on Chemical Engineering: Sustainable production and consume (2010)**

University of Cantabria. Chemical Engineering Department  
Final Degree Thesis: "*Utilization of the biorefinery concept in a pulp production process*"

#### **Chemical Engineering (2003-2009)**

University of Cantabria. Chemical Engineering Department  
Final Degree Thesis: Evaluación tecnológica y medioambiental del proceso cerámico usando escoria férrica  
"*Technological and environmental assessment of ceramic process using ferric slag*"

### AWARDS

- "Best Paper Award". ISB-INMA-TEH International Symposium, Bucharest, Romania, 2015.
- University Entrepreneur Awards. XIII Edition. Environment Category, 2015.

### PROFESSIONAL EXPERIENCE

- 2018 – Present      **Cloud Service Programs Team Lead.** Ingram Micro Inc.
- QA Management experience across multiple projects.
  - QA improvements including usage of appropriate testing tools and test techniques.
  - Monitoring of all QA activities, test results, leaked defects, root cause analysis and identifying areas of improvement. Implement steps required to improve the processes.
  - Documentation. Processes standardization. Department responsible for ISO27001 audit.
  - KPIs and metrics dashboards with Power BI software.
- 2016 – 2018      **Cloud Business Engineer.** Ingram Micro Inc.
- Configuration of new products in Odin platform and IM Cloud Marketplace.
  - Assistance to Product Managers in User Acceptance Tests (UATs). Bug Fixing.
  - Management and performance of the maintenance tasks for existing products.
  - Management of products deployment documentation.
  - Procedures standardization and documentation. Flow diagrams.
  - Experience with JIRA filters and reports & Confluence macros.
  - Technical reports writing and KPIs performance.
  - Collaboration with other teams from other locations in different projects.
- 2015 – 2016      **QA Jr. Engineer.** Ingram Micro Inc.
- Estimation, prioritization and coordination of testing activities.
  - Collaboration on automation and standardization QA process.
  - Issues identification, tracking and documentation.

- 2010 – 2014            **Process Engineer.** Universidad de Cantabria/Sniace S.A.
- Design, build and set up of a R&D laboratory for pulping industry.
  - Work with high pressure reactors at laboratory and pilot scale.
  - Data analysis and technical reports writing.
  - Analysis, design and optimization of different industrial processes.
  - Research stays at École Polytechnique de Montréal, Canada (6 months).
  - Attendance and participation on International conferences. Scientific papers publication.
  - Staff suitability and coordination. Mentoring of Final Degree Projects. Teaching courses.
- 2008                    **Water technician.** MARE S.A.
- Writing reports and assessments about water treatment issues.
  - Budgets requests, bid comparison and delivery notes reception.
  - Analysis and control of the quality of the treated water.

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## **TEACHING EXPERIENCE**

1. Associate Professor (2019-2021) (45h). "**Chemistry**" (6 ECTS). Nautical Engineering and Maritime Management, Marine Engineering Master's Degree.
2. Associate Professor (2020-2021) (10h). "**Science and Criminal Investigation**" (2 ECTS). Programa Senior. University of Cantabria.
3. Guest Speaker (2016) (3h). Simulación y optimización de procesos químicos. "**Simulation and optimization of chemical processes**". University of Cantabria.
4. Guest Speaker (2014) (2h). La Química en nuestro entorno. "**Chemistry in our environment**". Programa Senior. University of Cantabria.
5. Summer course (2011) (1h). Biotecnología Industrial. "**Industrial biotechnology**". University of Cantabria.

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## **RESEARCH STAYS**

1. Génie Chimique Département. Prof. Jean Paris & Mariya Marinova. **École Polytechnique Montréal**, Montreal, Canada, 2 months (February, 2014).
2. Génie Chimique Département. Prof. Jean Paris & Mariya Marinova. **École Polytechnique Montréal**, Montreal, Canada, 4 months (February, 2013).

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## **LANGUAGES**

- English: oral and written, high level. C1 level by Aptis.
- French: oral and written, basic level (school/high school and stays in Montréal).
- German: oral and written, intermediate level. B2 by Official Languages School of Cantabria.

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## **SOFTWARE PACKAGES**

- Cloud Services: Odin.
- Data Analysis: Stat Graphics, Origin, Power BI.
- Design: AutoCAD.
- Display/diagramation: Visio.
- Microsoft Office: Access, Word, Excel, Power Point, Publisher.
- Programming: Fortran, HTML.
- Projects Management: JIRA/Confluence, MS Project.
- Simulation/optimization: Aspen Custom Modeler, Aspen Plus, GAMS.

## Summary

Number of papers published in peer-reviewed journals:	6
Number of citations:	48
h Index:	4
Number of conference publications:	20

## Papers in peer-reviewed journals

1. *Technoeconomic assessment of different liquor biorefinery approaches for a spent sulfite.* C. Rueda, M. Marinova, J. Paris, G. Ruiz, A. Coz. *Journal of Chemical Technology and Biotechnology*, in press, DOI 10.1002/jctb.4868, **2016**. I.I.: 3.135 (2016). **Q1**
2. *Hydrolysis and separation of lignocellulosic biomass in a sulphite process to valorise the main fractions within the biorefinery concept.* A. Coz, T. Llano, C. Rueda, N. Quijorna, E. Maican. *INMATEH-Agricultural Engineering*, ISSN 2344 – 4118, October, 223-228, **2015**.
3. *Biorefinery options to valorize the spent liquor from sulfite pulping.* C. Rueda, P.A. Calvo, G. Moncalián, G. Ruiz, A. Coz. *Journal of Chemical Technology and Biotechnology*, 90(12), 2218-2226, **2015**. I.I.: 2.738 (2015). **Q1**
4. *Influence of raw material on wood digestion in a sulfite pulp mill for biorefinery purposes.* C. Rueda, C. Tejedor, N. Quijorna, A. Andrés, A. Coz. *Journal of Biology and Life Sciences*, Vol. 2(2), **2015**. Open Access: <http://www.macrothink.org/journal/index.php/jbls/article/view/8015>
5. *Monosaccharide production in an acid sulfite process: Kinetic modeling.* C. Rueda, J. Fernández-Rodríguez, G. Ruiz, T. Llano, A. Coz. *Carbohydrate Polymers*, 116,18-25, **2015**. I.I.: 4.219 (2015). **Q1**
6. *Study of the delignification of hardwood chips in a pulping process for sugar production.* T. Llano, C. Rueda, N. Quijorna, A. Blanco, A. Coz. *Journal of Biotechnology*, 162(4), 422-429, **2012**. I.I.: 3.183. **Q2**  
(I.I.: Impact Index)

## Conference Proceedings

1. *Case study of R&D&I in a pulp mill to be integrated as a forest biorefinery.* A. Coz, T. Llano, C. Rueda, C. Arce, G. Ruiz. Biorefineries and renewable energies supported in ITC: business opportunities based on technologies and innovation. Medellín, Colombia, **2018**.
2. *Transformación de una fábrica de pasta celulósica en una biorrefinería: caracterización, fraccionamiento y vías de valorización del licor gastado.* T. Llano, C. Rueda, A. Coz. VII Simposio Iberoamericano en ingeniería de residuos: hacia una economía circular, Santander, **2017**.
3. *Sugar substrate production from pulp mill waste.* A. Coz, T. Llano, C. Rueda, G. Ruiz, C. Arce, H. Sixta. Third Workshop & Fourth MC Meeting of the FP1306 COST Action, Torremolinos, Spain, **2017**.
4. *Characterisation of spent sulfite liquor and its valorisation using Aspen Plus® simulation software.* A. Coz, C. Arce, A.I. Portilla, C. Rueda, G. Ruiz, J.M. Romero-García, E. Castro. Bioenergy-2016 Conference, Rome, Italy, **2016**.
5. *Design and Simulation of Biorefinery Processes from an Acid Sulfite Pulping Mill.* C. Rueda, G. Ruiz, M. Marinova, J. Paris, N. Quijorna, A. Coz. 1st Workshop FP1306 COST Action "Valorisation of lignocellulosic biomass side streams for sustainable production of chemicals, materials & fuels using low environmental impact technologies" Belgrade, Serbia, **2015**.
6. *Hydrolysis and separation of lignocellulosic biomass in a sulphite process to valorise the main fractions within the biorefinery concept.* A. Coz, T. Llano, C. Rueda, N. Quijorna, E. Maican. ISB-INMA-TEH International Symposium, Bucharest, Romania, **2015**.
7. *Valorization options of a lignocellulosic waste: Influence of raw materials used in pulping.* C. Rueda, N. Quijorna, G. Ruiz, A. Andrés, A. Coz. 4th International Conference on Industrial and Hazardous Waste Management, Crete 2014, Chania, Crete, Greece, **2014**.
8. *Furfural production from the spent liquor of an acid sulfite process.* C. Rueda, T. Rafione, M. Marinova, J. Paris, A. Coz. International Forest Biorefinery Symposium, Montreal, Canada, **2014**.
9. *Simulation and Optimization of sulfite process to obtain dissolving pulp and valuable products from spent sulfite liquor.* N. Quijorna, C. Rueda, T. Llano, A. Andrés, B. Galán, G. Ruiz, J. Viguri, A. Coz. COST FP1205 Meeting: WG2: Science and uses of nanocellulose and WG3: Cellulose foams and films, Bangor, UK, **2014**.
10. *Valorization of a lignocellulosic waste from a Sulfite Pulp Mill in bioproducts.* A. Coz, N. Quijorna, C. Rueda, T. Llano, A.I. Portilla, A. Blanco, A. Andrés, B. Galán, G. Ruiz, J. Viguri. International Forest Biorefinery Symposium, Montreal, Canada, **2013**.
11. *Production of sugar substrate and lignosulphonates in a pulping process for bioproducts: study of the main operation digestion variables.* N. Quijorna, T. Llano, J. Fernández-Rodríguez, C. Rueda, A. Blanco, A. Coz. EPNOE 2013: "Polysaccharides and polysaccharide-derived products, from basic science to applications", Nize, France, **2013**.
12. *A kinetic model for wood pulping and polysaccharide production in an acid sulfite process.* C. Rueda, G. Ruiz, T. Rafione, M. Marinova, A. Coz. EPNOE 2013: "Polysaccharides and polysaccharide-derived products, from basic science to applications", Nize, France, **2013**.
13. *Study of sulphite process to obtain dissolving pulp and other valorisation options from spent liquor.* A. Coz, N. Quijorna, T. Llano, A.I. Portilla, C. Rueda, A. Andrés, B. Galán, G. Ruiz, J. Viguri. COST FP1205 Meeting: Dissolution and regeneration of cellulose, Goteborg, Sweden, **2013**.
14. *Influence of the digestion variables on a pulping process to maximize all of the lignocellulosic waste options.* T. Llano, N. Quijorna, C. Rueda, A. Blanco, B. Galán, A. Coz. WasteEng 2012. 4th International Conference on Engineering for Waste and Biomass Valorisation, Porto, Portugal, **2012**.

15. *Characterization of species of Eucalyptus and comparison of its behavior as a lignocellulosic biomass in a pulp process.* C. Rueda, T. Llano, c. Tejedor, N. Quijorna, E. Dosal, A. Andrés, A. Coz. WasteEng 2012. 4th International Conference on Engineering for Waste and Biomass Valorisation, Porto, Portugal, **2012**.
16. *Study of acid hydrolysis conditions of a lignocellulosic industrial waste on the sugar content for bioethanol production.* C. Rueda, T. Llano, N. Quijorna, G. Ruiz, A. Coz. 12th Mediterranean congress of chemical engineering, Barcelona, Spain, **2011**.
17. *Analysis of sugars and inhibitors obtained by the digestion of hardwood chips for bioethanol production.* T. Llano, N. Quijorna, C. Rueda, R. Mendivil, B. Galan, A. Coz. 8th European Congress of Chemical Engineering. ECCE-ECAB 2011. Berlin, Germany, **2011**.
18. *Physico-chemical characterization of a spent sulphite liquor oriented to its valorization options.* C. Rueda, T. Llano, N. Quijorna, A. Blanco, J.R. Viguri, A. Coz. 16th International Symposium on Wood, Fibre and Pulping Chemistry - ISWFPC 2011. Tianjin, China, **2011**.
19. *Comparison of sugar content of two pulping processes in order to produce bioethanol of 2nd generation.* N. Quijorna, T. Llano, A. Portilla, C. Rueda, A. Blanco, A. Andrés, A. Coz. Wastes: Solutions, Treatments, Opportunity. 1st Conference. Guimaraes, Portugal, **2011**.
20. *Design of a laboratory for the study of the digestion of hardwood chips in order to obtain pulp and sugars for bioethanol production.* T. Llano, C. Rueda, A. Blanco, A. Andrés, A. Coz. VENICE 2010 3rd International Symposium on Energy from Biomass and Waste, Venice, Italy, **2010**.

#### Other publications not included in Conference Proceedings:

1. *Pechakucha 20x20*. Biorefineries (<http://www.pechakucha.org/presentations/biorefinerías>) International Day of Women on Science. **2018**.
2. *BiogreenEssential, proyecto que busca valorizar la poda de eucalipto.* Medio Ambiente RETEMA. N°184. **2015**.

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#### FINAL DEGREE THESIS SUPERVISION

1. Javier Fernández Rodríguez. Biorefinería forestal integrada a partir del proceso al sulfito ácido. Modelado de la degradación de carbohidratos "**Integrated Forest Biorefinery from acid sulfite process. Carbohydrate dehydration modeling**", September, 2013.
2. Eva Cuesta Astorga. Estudio de la etapa de impregnación de la madera en el proceso al sulfito ácido "**Study of the impregnation stage in the acid sulfite process**", September, 2012.
3. Irene Ibañez Martínez. Estado del arte de la valorización de los licores gastados de cocción del proceso de obtención de celulosa "**State of the art of the valorisation of the spent liquors cellulose obtaining process**", September, 2011.
4. Rafael Mendivil Flores. Adaptación de un proceso de producción de celulosa de grado papelerero a grado dissolving "**Adaptation of a cellulose production process from paper to dissolving grade**", September, 2011.
5. Francisco Rueda Rubín. Obtención de bioetanol de segunda generación a partir de residuos lignocelulósicos "**2nd generation Bioethanol production from lignocellulosic wastes**", September, 2010.

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#### RESEARCH PROJECTS

##### Research projects as collaborator:

1. "**New tailor-made biopolymers produced from lignocellulosic sugars waste for highly demanding fire-resistant applications**" (BRIGIT). European Commission. 7th Framework Program KBBE.2012.3.4-02. **4 years** (August, 2012 – July, 2016).
2. *Estudio de viabilidad de procesos alternativos de digestión de maderas duras para la obtención de pasta dissolving* "**Study of feasibility of hardwood digestion alternative processes to obtain dissolving pulp**". Green Source (SNIACE group). Industrial projects SODERCAN.
3. *Desarrollo de la iniciativa para la identificación, monitorización, biotecnología y conversión-valorización de cultivos energéticos (EUCAFUEL).* "**Development of the initiative for the identification, monitoring, biotechnology and valorisation-conversion of energetic cultivation (EUCAFUEL)**". Plan E del Gobierno de España. **2 years** (2010-2011).

**PARTICIPATION IN SCIENTIFIC MEETINGS**

- Member of PAPTAC Association related to Pulp and Paper Industry.
- Member of PMI Project Management Institute.

**Participation as Committee Member in Conferences/Workshops:**

- Participation as Researcher: European Researcher's Night: Spain. 2019, 2018 & 2015
- Participation as local Committee: WASCON 2015 International Conference on Resource Efficiency in Construction, Santander, Spain. 2015.
- Participation as local Committee: 1<sup>st</sup> Workshop - BRIGIT European Project. Santander, Spain. 2014.

**DOCTORATE COURSES (80 HOURS)**

- (2012) Specialization course (80h): Formación Transversal Iniciación al Doctorado. University of Cantabria.

**OTHER COURSES (900 HOURS)**

- (2017) Summer course (15h): Desechos Marinos, ¿son un recurso de alto valor añadido? "*Marine wastes, are they a resource of high added value?*". University of Cantabria.
- (2015) Course (25h): Técnicas de gestión de auditoría interna. "*Internal audit. Management Techniques*". Gysco. Santander.
- (2015) Course (20h): Emprendimiento y empresas de economía social. "*Entrepreneurship and social economy companies*". COIE, University of Cantabria.
- (2015) Course (20h): Oportunidades de empleo en las redes sociales. "*Opportunities for employment in social networks*". COIE, University of Cantabria.
- (2015) Course (50h): Prevención de riesgos laborales y calidad. "*Prevention of occupational risks and quality*". COIE, University of Cantabria.
- (2015) Course (20h): Blog de empleo. "*Employment blog*". COIE, University of Cantabria.
- (2015) Specialization course (450h): Doc-e Program. Producción científica y experiencia empresarial para fomentar la creación de Startups de alto valor añadido. "*Scientific production and business experience to encourage the creation of Startups with high added value*". CISE.
- (2014) Summer course (20h): Biorefinery and Industrial applications. University of Cantabria.
- (2011) Course (20h): Curso básico de espectrometría infrarroja por transformada de Fourier. "*Basic course of infrared spectrometry by Fourier transform (FTIR)*". Izaa, Barcelona.
- (2010) Specialization course (50h): Aspectos Técnicos de la Gestión Medioambiental Sostenible en la Industria. "*Technical Aspects of Sustainable Environmental Management in the Industry*". University of Cantabria.
- (2010) Seminar (4h): Seminario general de laboratorio. "*General laboratory seminar*". Mettler Toledo.
- (2010) Course (6h): Seguridad en los laboratorios. "*Safety in labs*". University of Cantabria.
- (2010) Seminar (5h): Berhoff. Reactores a presión. "*Pressure reactors*". Inycom, País Vasco
- (2008) Course (25h): IV Jornadas Nacionales y II Internacionales sobre Naturaleza y Medio Ambiente. "*IV National and II International Conference on Nature and the Environment*". Consejería de Medio Ambiente, Gobierno de Cantabria y Guardia Civil.
- (2007) Summer course (20h): Combustibles tradicionales y biocombustibles. "*Traditional fuels and biofuels*". University of Cantabria.
- (2006) Summer course (20h). Gas Natural: desde el yacimiento a la industria. "*Natural gas: from the field to the industry*". University of Cantabria.
- (2006) Course (60h): Curso Básico de Prevención de Riesgos Laborales en la Construcción. "*Basic Course on Prevention of Occupational Hazards in Construction*". University of Cantabria.
- (2006) Summer course (20h): Aula de reciclaje de ordenadores, 5ª edición. "*Computer recycling classroom, 5th edition*". University of Cantabria.
- (2005) Summer course (30h): IV Curso Bridgestone Hispania sobre gestión de residuos peligrosos en la empresa. "*IV Course Bridgestone Hispania on management of hazardous waste in the company*". University of Cantabria.
- (2005) Summer course (20h). II Curso Solvay sobre empresa y medio ambiente. "*II Course Solvay on business and the Environment*". University of Cantabria.