

Part A. Personal Information

DATE	18 Enero 2023
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First and Family name	Estilita Ruiz Romera		
ID number		Age	
Researcher codes	Researcher ID		
	Código Orcid	http://orcid.org/0000-0002-1613-261X	

A.1. Current position

Professional Category	Senior Lecturer		
UNESCO Code	23910- Environmental Chemistry; 240300- Biogeochemistry 2508.05 Hydrobiology; 3308.11 Control of water pollution 2508.11 Water quality. 00112 Environment Technologies		
Key Words	Environmental research, environmental impact, environmental monitoring, soil-water-sediments, metals, pesticides environmental modelling		
Name of the University/Institution	Faculty of Engineering in Bilbao. University of the Basque Country (UPV/EHU).		
	Department/Centre	Chemical and Environmental Engineering	
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A.2. Education (title, institution, date)

Year	University	Degree	Title
1984	Univ. of Zaragoza	First degree	Chemical Sciences
1990	University of the Basque Country	PhD	Chemical Sciences

A.3. JCR articles, h Index, thesis supervised

a) Total number of citations: **840** according to <https://scholar.google.es/citations> b) Averaged number of citations during the last five years: **683**. c) total number of publications WoS (**47**) in the first quartile (Q1): **32**. d) h-index: **15**. Directed theses (8); Master Thesis (30); Final Degree Projects (36) (2008-2022)

Part B. Free Summary of CV (Max. of 3.500 characters, including spaces)

I have been a member of the Department of Chemical and Environmental Engineering of the University of the Basque Country (UPV/EHU) since 1990. I have been awarded 4 six-year tenures (the most recent on 01-01-2020). I'm accredited as a Professor by the university since January 2023.

In research, I have participated in a total of 46 research projects, 4 of them were European projects, of which I have been the Principal Researcher (PR) in 22 of them. I have a total of 82 publications in JCR journals, ISBN and books. I have also taken part in 86 national and international conferences. In the last **10 years**, I have conducted 5 PhD theses (3 European theses) and 1 codirected with the University of Toulouse. In addition, I have supervised 40 Final Degree Projects, 20 Business Cooperation Projects, 15 Final MSc Projects (MSc in Research in Environmental Engineering and Environmental Pollution and Toxicology).

Since 2007, I belong to Consolidated Group of UPV-EHU (Hydro-Environmental Processes Group (IT1678-22) recognized by the Basque Government with the A grade. Due to the cross-cutting and multidisciplinary nature of the research carried out in recent years, I have researched in different fields of the Environment: (i) Impact of different anthropic interventions on water and soil quality; (ii) assessment of the pesticides impact on microbial soil activity and; (iii) hydro-sedimentary assessment and sediment contamination. Of particular relevance was

the integration of chemical and biological processes into the study of impacts generated in heavily anthropized urban river catchments, developed under a National RDI Plan project (CTM2014-55270-R), which resulted in 15 publications in journals of impact and 2 theses related to this theme and what is included in Jessica Unda thesis defended in 2019, "Sediment as tool for evaluating ecological status of a river basin. Physicochemical and biological quality indicators". Lastly, EMECOIMPACT (RTI2018-093989-B-I00) project, has focused on the study of the environmental risk of emerging contaminants (antibiotics and metals) on fluvial ecosystems was evaluated. I am currently directing a thesis focused on this topic.

I have worked on projects with Basque public administrations: Basque Government's Water (URA), Environment and Agriculture Agency, Provincial Governments, municipal authorities, researching in topics related to monitoring of foci of pollution. In addition, I have also taken part in 3 European Projects (Interreg-Sudoe), focusing on collaborating with planning managers and aimed at identifying methodologies for monitoring water quality at given moments and monitoring of pollutants in water and sediments. In recent years, I have been Principal Researcher on various projects in these research lines, 2 from the University of the Basque Country, 3 projects of the National RDI Plan and 6 projects of the Provincial Government of Gipuzkoa (2011-2016) and 1 Project of the Basque Government (2007-2009).

Finally, I am also a member of an Education and Research Unit (UFI 11/26, University of the Basque Country) on Global Change and Heritage, involving major interdisciplinary input (there are three Consolidated Groups in this ERU from different disciplines in the areas of Science/Technology/Society) and the **Research Network on Resistance to Antibiotics in the Environment**, within the "Sustainable and Healthy Territory" knowledge hub, promoted by the University of the Basque Country's International Campus of Excellence (Euskampus).

Part C. RELEVANT MERITS

C.1. Publications

- Beltran de Heredia, I., Garbisu, C., Alkorta, I., Urra, J., González-Gaya, B., **Ruiz-Romera, E.** 2023. Spatio-seasonal patterns of the impact of wastewater treatment plant effluents on antibiotic resistance in river sediments. *Environmental Pollution* 319 (2023) 120883.
- Lechuga-Crespo, S., Sauvage, J.L., **Ruiz-Romera, E.**, Van Vliets, M.T.H., Probst, J.L., Fabre, C., Sánchez-Pérez, J.M. 2021. Global carbon sequestration through continental chemical weathering in a climatic change context. *Scientific Reports*. <https://doi.org/10.1038/s41598-021-02891>
- Lechuga-Crespo, J.L., **Ruiz-Romera, E.**, Probst, J. L., Unda-Calvo, J., Carolina Cuervo-Fuentes, Z., Sánchez-Pérez, J.M. 2020. Combining punctual and high frequency data for the spatiotemporal assessment of main geochemical processes and dissolved exports in an urban river catchment. *Science of the Total Environment*. 727 (138644)
- Unda-Calvo, J., **E. Ruiz-Romera, E.**, M. Martínez-Santos, M. 2020. Multivariate statistical analysis for water and sediment quality index development: a study of susceptibility in an urban river. *Science of the Total Environment*, 711 (135026)
- Unda-Calvo, J., Martínez-Santos, M., **Ruiz-Romera, E.**, Lechuga-Crespo, J.L. 2019. Evaluating the role of particle size on urban environmental geochemistry of metals in surface sediments. *Science of the Total Environment*, 646, 121-133
- Unda-Calvo, J., Martínez-Santos, M., **Ruiz-Romera, E.**, Lechuga-Crespo, J.L. 2019. Implications of denitrification in the ecological status of an urban river using enzymatic activities in sediments as an indicator. *Journal of Environmental Sciences* , 75: 255-268.
- Peraza-Castro, M., Sauvage, S., Sánchez-Pérez, J.M., **Ruiz-Romera, E.** 2016. Effect of flood events on transport of suspended sediments, organic matter and particulate metals in a forest watershed in the Basque Country (Northern Spain). *Science of the Total Environment*, 569–570: 784–797.
- Peraza-Castro, M., Sauvage, S., Sánchez-Pérez, J.M., **Ruiz-Romera, E.** 2018. Modelling the impact of climate and land cover change on hydrology and water quality in a Forest Watershed in the Basque Country (Northern Spain). *Ecological Engineering* 122, 315-326.
- Martínez-Santos, M., Lanzén, A., Unda-Calvo, J., Martín, I., Garbisu, C., **Ruiz-Romera, E.** 2018. Treated and untreated wastewater effluents alter river sediment bacterial communities involved in nitrogen and sulphur cycling. *Science of the Total Environment*. 633, 1051-1061.

- Arroitiá, M., Flores, L., Larrañaga, A., Martínez, A., Martínez-Santos, M., Pereda, O., **Ruiz-Romera, E.**, Solagaistua, L., Elozegi, A. 2017. Water abstraction impacts stream ecosystem functioning via wetted-channel contraction. *Freshwater Biology*, 62, 243-257.
- Antigüedad, A., Zabaleta, A., Martínez-Santos, M., **Ruiz-Romera, E.**, et al. 2017. A simple multi-criteria approach to delimitate nitrate attenuation zones in alluvial floodplains. Four cases in south-western Europe. *Ecological Engineering*, 103, 315-331
- Unda-Calvo, J., Martínez-Santos, M., **Ruiz-Romera, E.** 2017. Chemical and physiological metal bioaccessibility assessment in surface bottom sediments from the Deba River urban catchment: harmonization of PBET, TCLP and BCR sequential extraction methods. *Ecotoxicology and Environmental Safety*. 138, 260-270
- Comin, P., Sánchez-Pérez, J.M., **Ruiz, E.** et al. 2016. Floodplain capacity to depollute water in relation to the structure of biological communities. *Ecological Engineering*, <http://dx.doi.org/10.1016/j.ecoleng.2016.06.007>.
- Martínez-Santos, M., Probst, A., García-García, J., **Ruiz-Romera, E.**, 2015. Influence of anthropogenic inputs and high-magnitude flood event on metal contamination pattern in surface bottom sediments from the Deba River urban catchment. *Science of the Total Environment*, **514**, 10-25.
- Muñoz-Leoz, B.; Garbisu, C.; Charcosset, J.Y.; Sánchez-Pérez, J.M.; Antigüedad, I.; **Ruiz-Romera, E.**, 2013, "Non-target effects of three formulated pesticides on microbially-mediated processes in a clay-loam soil", *Science of the Total Environment*, 449: 345-354.
- Muñoz-Leoz, B.; Antigüedad, I.; Garbisu, C.; **Ruiz-Romera, E.**, 2012, "Fertilization can modify the non-target effects of pesticides on soil microbial communities", *Soil Biology & Biochemistry*, 48: 125: 134.
- Muñoz-Leoz, B.; Antigüedad, I.; Garbisu, C.; **Ruiz-Romera, E.**, 2011, "Nitrogen transformations and greenhouse gas emissions from a riparian wetland soil: An undisturbed soil column study", *Science of the Total Environment*, 409: 763-770.
- Egiarte, G.; Pinto, M.; **Ruiz-Romera, E.**; Camps Arbestain, M. 2008. Monitoring heavy metal concentrations in leachates from a forest soil subjected to repeated applications of sewage sludge. *Environmental Pollution*. 156, 840: 848.
- Egiarte, G.; Camps Arbestain, M.; **Ruiz Romera, E.**; Pinto, M. 2006. Study of an acid soil column amended with an anaerobic municipal sludge. *Chemosphere*. 65 (11), 2456: 2467.

C.2. Research Projects and Grants (most relevant from the last 5 years)

1. Catchment-level assessment of the ecological impact of emerging pollutants in microbial communities from rivers receiving effluents from wastewater treatment plants (*EMECOIMPACT*). Entidad financiadora: Ministerio de Ciencia, innovación y universidades. MINECOR2018. Periodo 2019-2022. Referencia: **RTI2018-093989-B-I00**. Coordinador: Dra. Estilita Ruiz Romera (UPV/EHU) y Dr. Enrique Navarro (CSIC). Presupuesto total: 151.250 €.
2. Desarrollo de una plataforma de gestión de recursos hídricos durante el estiaje en el territorio SUDOE (AGUAMOD). Entidad financiadora: Programa INTERREG-SUDOE. Presupuesto Total: 2.125.392 €. Referencia **AGUAMOD-SOE1/P5/F0026**. Periodo: 2016-2019. Coordinador UPV/EHU: Iñaki Antigüedad (UPV/EHU España) con 220.000 €.
3. Evaluación espacio-temporal del impacto de los contaminantes asociados a la fase soluble y particulada en cuencas urbanas afectadas por vertidos de aguas residuales. Cuenca del río Deba. Entidad financiadora: Ministerio de Economía y Competitividad. MINECO2014. Referencia: **CTM2014-55270-R**. Periodo 2015-2018. Coordinador UPV/EHU: Estilita Ruiz Romera e Iñaki Antigüedad (UPV/EHU España). Presupuesto total: 134.310 €.
4. Efecto de las avenidas en el transporte de material particulado y contaminantes asociados hacia aguas litorales en cuencas del País Vasco. Entidad financiadora: Ministerio de Ciencia e Innovación. MICIN2011. Referencia: **CGL2011-26236**. Periodo 2011-2015. Coordinador UPV/EHU: Estilita Ruiz Romera (UPV/EHU España). Presupuesto total: 79.860,00 €.
5. Grupo Procesos Hidro-Ambientales (Grupo Consolidado Gobierno Vasco. Entidad financiadora: Gobierno Vasco. Referencia: **(IT1678-22)**. Periodo 2022-2025 Coordinador partner UPV/EHU: Iñaki Antigüedad (UPV/EHU España). Presupuesto total: 332.400 € (Grupo A).
6. Puesta a punto de una metodología capaz de prever los mejores emplazamientos para la explotación de las aguas Subterráneas en el territorio SUDOE (ATTENAGUA). Entidad financiadora: Programa INTERREG-SUDOE. Presupuesto total: 831.467,65 Euros.

Referencia **ATTENAGUA- SOE3/P2/F558**. Periodo: 2012-2014. Coordinador UPV/EHU: Iñaki Antigüedad (UPV/EHU España) con 197.560 €.

7. Desarrollo de un método de evaluación de riesgos de degradación de la calidad del agua en Cuencas Vertientes agrícolas durante los procesos de crecidas aplicables a las CV de Sudoe (AGUA FLASH). Entidad financiadora: Programa INTERREG-SUDOE. Presupuesto total: 1.047.333,99 €. Referencia **AGUAFLASH-SOE1/P2/F146**. Periodo: 2019-2012. Coordinador UPV/EHU: Iñaki Antigüedad (UPV/EHU España) con 147.813 €.

8. Evolución de metales pesados y pesticidas en agua y sedimento. Degradación de la calidad del agua en ríos durante las crecidas. Caso del río Oka (Urdaibai). Entidad financiadora: Universidad del País Vasco. Referencia: **UNESCO08/15**. Periodo 2008-2011. Coordinador UPV/EHU: Estilita Ruiz Romera. Presupuesto total: 22.000€

C.3. Contracts (most relevant from the last 5 years)

1. Cuantificación de las tasas de sedimentos exportados de las cuencas del Territorio Histórico de Gipuzkoa durante el año 2011 (Fase I y II), 2012 (1-RR-3/12), 2013 ((2013/20/BH-ZN), 2014 (2(2014/15-BH-ZN). Presupuesto total 92.590 € (gestionado por Euskoiker y la OTRI). Coordinador: Iñaki Antigüedad y E. Ruiz Romera. Diputación Foral de Gipuzkoa. Periodo: 3 años.

2. Cuantificación de la tasa de sedimentos exportados de las cuencas del Territorio Histórico de Gipuzkoa durante el año 2015 y caracterización de los contaminantes del sedimento de la cuenca del río Urumea (2015/33-BH-ZN). Presupuesto: 32,670 € (gestionado por la OTRI). Coordinador: E. Ruiz Romera. Diputación Foral de Gipuzkoa. Periodo: Enero 2014-Diciembre 2015.

3. Seguimiento de los lixiviados y de las aguas del entorno en los vertederos clausurados de Amoroto y Gordexola (Bizkaia), Año 2006 (P-3121). Año 2007 (P-3281). Año 2008 (P3445). Año 2010 (P-3624). Presupuesto: 60.325,06 Euros (gestionado por Euskoiker) Coordinador: Iñaki Antigüedad y Estilita Ruiz Romera. Garbiker. Periodo: 2006-2010 (5 años naturales).

4. Apropiación y fortalecimiento de las organizaciones locales y gobiernos municipales en la gestión y dinamización de procesos de mejora de la capacidad de resiliencia ante efectos locales del cambio climático, en 3 municipios del departamento de Usulután, El Salvador. Presupuesto: 9.000 € (gestionados por la OTRI). Coordinador: E. Ruiz Romera. ONG Solidaridad Internacional. Periodo: Julio 2017-Julio 2018.

C.5, C.6, C.7. (Institutional responsibilities, memberships of scientific societies...)

- Assessor/reviewer for scientific journals: Science of Total Environmental (Impact Factor: 3.190), Journal of Hazardous Materials (Impact Factor: 4.33) and Annales de Limnologie (Impact Factor 1.036), etc.
- Participation on the advisory committee of European projects: Aguaflash, ATTENGUA, AGUAMOD.
- Member of juries for PhD dissertations and Final Master's Projects.
- Author of technical reports of socio-economic impact: Basque Government, Territorial Governments, IHOBE, etc.,
- Member of the participation process of: "Outline of important themes in the area of Water Management" for the Water Framework Directive in the Autonomous Community of the Basque Country. Organised by URA (Basque Water Agency).
- Member of the "Spanish Water Pollution Control Association".
- Member of SICTA, the Latin American Society of Toxicology and Environmental Pollution.
- Member of the "Fundación Nueva Cultura del Agua" (New Water Culture Foundation).
- Participation in scientific dissemination by the UNESCO Chair of Sustainable Development and Environmental Education of the UBC.
- Participation in debate symposia: Adaptation to climate change and agriculture. IHOBE 2008. Water, Soil and Territory from the perspective of GLOBAL CHANGE. K-EGOKITZEN. Organised by Basque Govt. and University of the Basque Country 2010.
- Participation in scientific dissemination of research carried out under ministry projects MICINN2011 and MINECO2014 at **ELHUYAR Aldizkaria** (2015): "Ibaietako Sedimentuak, Polutzaile-Erreserba Dinamiko" (in Basque) and in the **Teknopolis** documentary (2018), "Deba ibaiaren diagnose metalikoa/Diagnóstico metálico del río Deba", broadcast on ETB1 and ETB2 television.