

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	Alvaro		
Family name	Rada Iglesias		
Gender (*)	Male	Birth date (dd/mm/yyyy)	01/05/1978
Social Security, Passport, ID number	13979121C		
e-mail	alvaro.rada@unican.es	URL Web https://web.unican.es/ibbttec/en-us/about-ibbttec/team/members/	
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-7137-1341		

A.1. Current position

Position	Científico Titular		
Initial date	04/08/2020		
Institution	Consejo Superior de Investigaciones Científicas (CSIC)		
Department/Center	Departamento de Señalización Celular	Instituto de Biomedicina y Biotecnología de Cantabria (IBBTEC)	
Country	Spain	Teleph. number	(+34) 942 203932
Key words	Transcriptional regulation, enhancers, long-range, chromatin, structural variants, development, rare diseases		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2018-2020	Investigador Principal / Universidad de Cantabria, Spain
2013-2018	Research Group Leader / University of Cologne, Germany
2009-2013	Postdoc / Stanford University, USA
2008-2009	Postdoc / Uppsala University, Sweden
2007-2008	Postdoc / Institut D'Investigacions Biomediques (IDIBAPS), Spain
2001-2007	PhD Student / Uppsala University, Sweden

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Medicine PhD programme	Uppsala University, Sweden	2007
M. Sc. In Biology	Universidad de León	2001

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Alvaro Rada Iglesias received his M.Sc. in Biology by the University of Leon in 2001, being recognized as the best academic curriculum of that year. He obtained his PhD in 2007 at Uppsala University (Sweden), where he worked in Prof. Claes Wadelius group. After a short post-doctoral work in the Linnaeus Centre for Bioinformatics (Uppsala University, Sweden) under the supervision of Prof. Jan Komorowski, he obtained an EMBO long-term fellowship to continue his postdoctoral career in Joanna Wysocka's laboratory at Stanford University (USA) (2009-2013). In 2013, he was recruited by the University of Cologne as a Group Leader at the Centre for Molecular Medicine, where he started his independent research group. In July 2018 he was recruited as a Principal Investigator by the University of

Cantabria to direct his research group at the Institute of Biomedicine and Biotechnology of Cantabria (IBBTEC). In 2020, he became a **Tenured Scientist at the Consejo Superior de Investigaciones Científicas (CSIC)**. Alvaro Rada-Iglesias currently directs the **"Transcriptional regulation in development and congenital disease"** research group at IBBTEC.

The main interest of the Rada-Iglesias laboratory is to **uncover the role of distal enhancers in the deployment of developmental gene expression programs** (Pachano et al., 2021, Nat Genet; Crispatzu et al., 2021, Nat Comm; Bleckwehl et al., 2021, Nat Comm; Cruz-Molina et al., 2017, Cell Stem Cell; Respuela et al., 2016, Cell Stem Cell) as well as in the **etiology of human congenital disorders** (Sanchez-Gaya et al., 2023, NAR; Laugsch et al., 2019, Cell Stem Cell). Our work has resulted in over **70 peer-reviewed articles** in important international journals (**total citations=13862 and h-index=35** according to Google Scholar; 3 Sexenios de Investigación). Alvaro Rada Iglesias has received important national and international grants as a PI, including an **ERC Consolidator Grant** (2020-2025), and the **MSCA-ITN-"Enhpathy"** (2020-2024), in which Alvaro Rada-Iglesias served as vicecoordinator, and the **MSCA-DN-"Chrom_rare"**(2023-2026) doctoral networks.

Alvaro Rada-Iglesias has directed seven Doctoral Thesis: (i) María Mariner-Faulí: "Genomic and mechanistic characterization of ZIC2 function during *in vitro* neural induction", University of Cantabria, 22-11-2024; (ii) Victor Sanchez-Gaya: "Prediction of long-range pathomechanisms whereby SVs cause congenital defects", University of Cantabria, 19-01-2024; (iii) Tomas Pachano: "Orphan CpG islands dictate the compatibility between poised enhancers and their target genes", University of Cologne, 17-01-2022; (iv) Tore Bleckwehl: "The relevance of the epigenetic features of enhancers for germline competence", University of Cologne, 07-06-2021; (v) Michaela Bartusel: "Disruption of neural crest enhancer landscapes as an etiological mechanism for human neurocristopathies", University of Cologne, 06-12-2019; (vi) Milos Nikolic: "Understanding the basis of gene regulation of common complex diseases by computational analysis of next-generation sequencing data", University of Cologne, 05-10-2017; (vii) Sara de la Cruz Molina: "Poised enhancers are key cis-regulatory elements during ESC differentiation whose activity is facilitated by Polycomb Repressive Complex 2", University of Cologne, 15-12-2017.

Our work is internationally recognized, particularly within the gene regulation and enhancer biology fields. Consequently, Alvaro Rada-Iglesias has been invited as a **speaker to numerous international conferences and research institutions** (e.g. EMBO Workshop "Systems biology: Linking chromatin and epigenetics to disease and development" (2023), CSHL Meeting "Chromatin & Epigenetics" (2022); CSHL Meeting "Mechanisms of Eukaryotic transcription" (2021); Seminars at Stanford University, University of Oxford, University of Cambridge, etc.). Furthermore, Alvaro Rada-Iglesias has **organized several national and international conferences** (Main organizer EMBO Workshop "Enhanceropathies", Santander, Spain (2021); Co-organizer EMBO Workshop "Enhanceropathies", Marseille, France (2023)) and his work has been recognized with **important national and international awards** (José Luís Gómez-Skarmeta award (2020), EMBO Young Investigator Programme (YIP) award (2017)). During the last years, Alvaro Rada-Iglesias is also in charge of important Management activities, including Scientific Manager for the area "BIO-BMC" (Agencia Estatal de Investigación (AEI), Spain), Member of the "Permanent commission of the University of Cantabria Doctoral School" (University of Cantabria, Santander, Spain) and Member of the steering committee of the "Conexión Genoma" network (CSIC, Spain). Lastly, Alvaro Rada-Iglesias also participates in outreach activities to increase the visibility of his research (e.g. TEDx Talks "TEDxPlazaCañadío", seminar at "ATENEO de Santander", Coordinador Libro Blanco CSIC "Genome & Epigenetics").

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

1. **Scientific paper.** Ealo T; Sanchez-Gaya V; Respuela P; et al; Rada-Iglesias A (CA). 2024. Cooperative insulation of regulatory domains by CTCF-dependent physical insulation and promoter competition. **Nature Communications**. 15, pp.7258. <https://doi.org/10.1038/s41467-024-51602-4>.
2. **Scientific paper.** Sánchez-Gaya V; Rada-Iglesias A (CA). 2023. POSTRE: a tool to predict the pathological effects of human structural variants. **Nucleic Acids Research**. ISSN 0305-1048. <https://doi.org/10.1093/nar/gkad225>
3. **Review paper.** Pachano T; Haro E; Rada-Iglesias A (CA). 2022. Enhancer-gene specificity in development and disease. **Development**. 149. ISSN 0950-1991. <https://doi.org/10.1242/dev.186536>
4. **Scientific paper.** Bleckwehl T; Crispatzu G; Schaaf K; et al; Rada-Iglesias A (CA). 2021. Enhancer-associated H3K4 methylation safeguards in vitro germline competence. **Nature Communications**. 12, pp.5771. <https://doi.org/10.1038/s41467-021-26065-6>
5. **Scientific paper.** Pachano T; Sánchez-Gaya V; Ealo T; et al; Rada-Iglesias A (CA). 2021. Orphan CpG islands amplify poised enhancer regulatory activity and determine target gene responsiveness. **Nature Genetics**. 53, pp.1036-1049. ISSN 1061-4036. <https://doi.org/10.1038/s41588-021-00888-x>
6. **Scientific paper.** Crispatzu G; Rehimi R; Pachano T; et al; Rada-Iglesias A (CA). 2021. The chromatin, topological and regulatory properties of pluripotency-associated poised enhancers are conserved in vivo. **Nature Communications**. 12, pp.4344. <https://doi.org/10.1038/s41467-021-24641-4>
7. **Scientific paper.** Laugsch M; Bartusel M; Rehimi R; et al; Rada-Iglesias A (CA). 2019. Modeling the Pathological Long-Range Regulatory Effects of Human Structural Variation with Patient-Specific hiPSCs. **Cell Stem Cell**. 24, pp.736-752.e12. ISSN 1934-5909. <https://doi.org/10.1016/j.stem.2019.03.004>
8. **Scientific paper.** Cruz-Molina S; Respuela P; Tebartz C; et al; Rada-Iglesias A (AC). 2017. PRC2 Facilitates the Regulatory Topology Required for Poised Enhancer Function during Pluripotent Stem Cell Differentiation. **Cell Stem Cell**. 20, pp.689-705.e9. ISSN 1934-5909. <https://doi.org/10.1016/j.stem.2017.02.004>
9. **Scientific paper.** Rehimi R; Nikolic M; Cruz-Molina S; Tebartz C; Frommolt P; Mahabir E; Clément-Ziza M; Rada-Iglesias A (CA). 2016. Epigenomics-Based Identification of Major Cell Identity Regulators within Heterogeneous Cell Populations. **Cell Reports**. 17, pp.3062-3076. <https://doi.org/10.1016/j.celrep.2016.11.046>
10. **Scientific paper.** Respuela P; Nikolić M; Tan M; Frommolt P; Zhao Y; Wysocka J; Rada-Iglesias A (CA). 2016. Foxd3 Promotes Exit from Naive Pluripotency through Enhancer Decommissioning and Inhibits Germline Specification. **Cell Stem Cell**. 18, pp.118-33. ISSN 1934-5909. <https://doi.org/10.1016/j.stem.2015.09.010>

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. **Invited speaker.** “Genomics of rare disease” conference; Wellcome Genome Campus. 2025. Hinxton, UK.
2. **Invited speaker.** EMBO Workshop “Systems biology: Linking chromatin and epigenetics to disease and development”. EMBO. 2023. Alexandroupoli, Greece.
3. **Invited speaker.** CSHL Meeting “Epigenetic & Chromatin”. Cold Spring Harbour Laboratory (CSHL). 2022. CSHL, USA.
4. **Invited speaker.** EMBO Workshop “The evolution of animal genomes”. EMBO. 2021. Virtual.
5. **Invited speaker.** CSHL Meeting “Mechanisms of eukaryotic transcription”. Cold Spring Harbour Laboratory (CSHL). 2021. Virtual.
6. **Invited speaker.** EMBO Workshop “Enhanceropathies: understanding enhancer function to understand human disease”. EMBO. 2021. Santander, Spain.

7. **Invited speaker.** European Developmental Biology Congress. SEBD. 2018. Alicante, Spain.
8. **Invited speaker.** EMBO Conference "Transcription and Chromatin". EMBO. 2018. Heidelberg, Germany.
9. **Invited speaker.** Epigenetics Conference: "From Mechanisms to Disease". Fusion Conferences. 2018. Cancún, México.
10. **Invited speaker.** Banbury meeting on "'Enhanceropathies: enhancer function variation in animal development, morphological variation and disease". Cold Spring Harbour Laboratory (CSHL). 2017. CSHL, USA.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. **Project.** MSCA Doctoral Network (DN) "Chrom_Rare" (101073334). HORIZON.1.2 - Marie Skłodowska-Curie Actions (MSCA). European Commission. Consejo Superior de Investigaciones Científicas (CSIC), Spain. 01/01/2023- 31/12/2026. 251.971 €. Co-PI: Rada-Iglesias, A.
2. **Project.** DISECCION GENETICA DE LA PRECISION TRANSCRIPCIONAL CONTROLADA POR POTENCIADORES (PID2021-123030NB-I00). Ministry of Science, Innovation and Universities (Spain). Consejo Superior de Investigaciones Científicas (CSIC), Spain. 01/09/2023-31/08/2025. 302.500 €. PI: Rada-Iglesias, A.
3. **Project.** ERC Consolidator grant: POISEDLOGIC-DISSECTING THE REGULATORY LOGIC OF POISED ENHANCERS (862022). European Research Council (ERC). University of Cantabria/CSIC, Spain. 01/09/2020-30/08/2026. 1.997.662 €. PI: Rada-Iglesias, A.
4. **Project.** MSCA International Training Network (ITN): ENHPATHY-MOLECULAR BASIS OF HUMAN ENHANCEROPATHIES (860002). Marie Skłodowska-Curie action (MSCA)-ITN-ETN; European Commission. University of Cantabria, Spain. 01/03/2020- 29/02/2024. 250.904 €. Co-PI: Rada-Iglesias, A.
5. **Project.** TRANSCRIPTIONAL REGULATION DURING VERTEBRATE EMBRYONIC PATTERNING: FROM GENOMICS TO MECHANISM. Universidad de Cantabria/Banco de Santander (STAR2 Programme). University of Cantabria, Spain. 01/07/2018- 30/06/2023. 380.000 €. PI: Rada-Iglesias, A.
6. **Project.** DISECCION DE LA LOGICA REGULADORA DE LOS POTENCIADORES CAPACITADOS PRESENTES EN CELULAS PLURIPOTENTES (PGC2018-095301-B-I00). Ministry of Science, Innovation and Universities (Spain). University of Cantabria, Spain. 01/01/2019-31/12/2021. 185.251 €. PI: Rada-Iglesias, A.
7. **Project.** IDENTIFICATION AND CHARACTERIZATION OF MAJOR STEM CELL REGULATORS WITHIN THE EPIDERMIS. German Research Foundation (DFG); SFB829. University of Cologne, Germany. 01/01/2017-31/12/2020. 331.600 €. PI: Rada-Iglesias, A.
8. **Project.** MECHANISTIC CHARACTERIZATION OF POISED ENHANCER FUNCTION DURING THE INDUCTION OF MAJOR ANTERIOR NEURAL REGULATORY LOCI. German Research Foundation (DFG). University of Cologne, Germany. 01/12/2017-30/11/2020. 223.850 €. PI: Rada-Iglesias, A.
9. **Project.** A NOVEL ETIOLOGICAL MECHANISM FOR BRANCHIO-OCULO-FACIAL SYNDROME (BOFS) WITH IMPLICATIONS FOR THE CURRENT UNDERSTANDING OF HUMAN NEUROCRISTOPATHIES. Else Kroner Fresenius Stiftung (Germany). University of Cologne, Germany. 01/01/2017- 31/12/2019. 301.800 €. PI: Rada-Iglesias, A.
10. **Project.** FUNCTIONAL AND MECHANISTIC CHARACTERIZATION OF FOXD3 DURING MOUSE PERI-IMPLANTATION DEVELOPMENT. German Research Council (DFG). University of Cologne, Germany. 01/09/2016-31/08/2019. 326.800 €. PI: Rada-Iglesias, A.